User Manual

Sartorius ProControl@Enterprise

SPC@Enterprise and SPC@Enterprise Sampling
Artikel 62S-SPC- ...

User Manual SPC Enterprise

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About this User Manual

User Manual

This user manual is provided as a PDF file on the DVD-ROM "Sartorius ProControl@Enterprise". You can view and print the user manual with the free Adobe Reader (version 5 and later). You can download updates of this user manual from the Sartorius website at www.sartorius.com.

Other Documents

Installation of the "Sartorius ProControl@Enterprise" software is described in the supplied installation manual (see "Equipment Supplied").

Equipment Supplied

Delivery of "Sartorius ProControl@Enterprise" includes the following:
1 DVD-ROM "Sartorius ProControl@Enterprise" with the following content:
– The applications "SPC@Enterprise" and "SPC@Enterprise Sampling"
– Microsoft SQL Server 2008 R2 Express
– System components for Microsoft Windows (.NET Framework, Installer, etc.)
– User manual (PDF file)
1 installation manual in printed form

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The software may not be reproduced, changed, reverse engineered or modified by recompiling and/or reengineering. The software is intended for use by the purchaser only. Transfer to third parties, whether free of charge or in return for payment, is not permitted.

If you should experience problems with the included software, please contact your supplier. Sartorius is entitled to introduce updated software. No liability is accepted for the software of other developers provided on the DVD-ROM or software already installed on your system. Users shall be liable for the improper use of said software.

Microsoft, Windows, Windows Server, Windows Vista and SQL Server are registered trademarks of Microsoft Inc. Other product and company names mentioned in these operating instructions may be trademarks or trade names registered to their respective owners.

Symbols Used

The following symbols are used in this user manual:

Symbol	Meaning
⚠	The warning triangle is found before the definition of a possible risk and the measures to prevent any damage.
ⓘ	The i symbol notes tips for optimal use.
▶	The black triangle is found before all instructions to take an action.
▷	The white triangle is found before the results of an action.
–	The list dash is found before all lists.
👤🔑	This administrator icon symbolises the user who performs the administration function. It also indicates that the adjacent text is directed at administrators.
👷	This production icon symbolises the user who is responsible for production and production management as well as for setting up test and measurement equipment.
📋	This QM icon symbolises quality management personnel. It indicates that the adjacent text is particularly relevant to QM employees.
👥	This user icon symbolises all users. It indicates that the adjacent text is directed to all users of the software.

For Your Safety

⚠️ **Important note!**
Property damage due to improper use of the software

Changes to the software through recompiling, reengineering and incomplete or faulty inputs could lead to faulty product inspections and/or faulty reports. Faulty inspections and faulty reports can result in property damage.

▶ **Do not** engage in any recompiling or reengineering of the software. If any program modifications are required, only have them performed by Sartorius employees.
▶ Please read this user manual – especially the chapter "For Your Safety" – before operating the software.
▶ Only use the software as described in this user manual.
▶ This user manual should be kept in such a way that it is always freely accessible to all personnel who work with the software.
▶ If the software is transferred to a third party, then this user manual as well as all accompanying documents should also be handed over.
▶ Should you have problems with the software that you cannot resolve with this user manual, please contact Sartorius Service and Support.
▶ If this user manual is lost, you can download the PDF file from the Sartorius website.

Qualification of Personnel

Only qualified personnel may enter machine and product data in the "Sartorius AllSuite® SPC@Enterprise" software. All persons who are familiar with the product, gauges and production facilities to the extent that they are capable of providing correct, accurate machine and product data inputs are qualified to perform this activity.
Integration of "Sartorius Allsuite® SPC@Enterprise" into the user's existing IT system should only be performed by an IT specialist or a person with comparable skills who is also familiar with setting up and servicing the company network.

This user manual is designed for the following personnel groups:

Administrators
Personnel who manage access to the various software functions and set up user accounts must define the responsibilities for the different software modules and ensure they are followed. If several persons work with the software, administrators must design a detailed workstation allocation plan so that there are no unclear responsibilities that would endanger the functionality of the software.

Quality Managers
Personnel responsible for quality assurance must be capable of performing measurements using the software and issuing reports, as described in this manual.

Production Personnel Personnel who are monitoring the software either from a control room or directly at the plant must be capable of correctly interpreting any triggered messages and warnings and taking appropriate action. For this purpose, they must be trained by the system operator.

Responsibilities of the User

You may only put the software into operation once you have established that the machine or plant that the software is intended to monitor satisfies all applicable requirements, safety regulations and standards for the application.
This includes the following responsibilities in particular:

Train Personnel ▶ Provide regular training for your personnel to ensure safe operation. In this regard, you must be aware of and apply the regulations regarding accident prevention and occupational safety.

Limit Access ▶ Limit access to the software to persons who are properly trained in its use. In this regard, you must define the responsibilities for the various functions and modules of the software.

Intended Use

The intended use of the software includes:
– Installing the software on your system in accordance with the supplied installation instructions
– Reading this user manual and especially the chapter "For Your Safety"
– Using the software only as described in this user manual
– Using the software only to control devices and components approved by Sartorius. You can find information about this at www.sartorius.com.

Improper use is considered to mean:
– Modifying the software through recompiling and/or reengineering
– Using the software in ways other than described in this user manual

System Overview

"Sartorius ProControl@Enterprise" (in brief: "SPC@Enterprise") is a tool for statistical process control that supports the user in satisfying statutory requirements, standards, delivery terms and company specifications in quality management.

"SPC@Enterprise Sampling" is an application for configuring and controlling test stations for finished packaging controls.

General Information

On a PC in a Microsoft Windows network, as the production manager for example, would you like to define master data, monitor the current state of production and generate reports to analyze the data?

On a different PC or at an instrument-based test station in the production area, would you like to access products for testing, weighing, batching or fill level control, or input quality attributes?

In the case of production faults or quality defects, or if there is a danger that the entire production batch may not be allowed into circulation, would you like to have real-time alerts on the production lines and, if desired, also on other PCs?

The computer-based system "SPC@Enterprise" is the answer to your questions. It is optimized for cost-effective implementation and individual user requirements and ensures secure, fast operation for highly demanding applications.

Functionality

"SPC@Enterprise" is used primarily for statistical process control (SPC) of filled products. This takes place via the sampling, storage and statistical evaluation of measurement data. The results can be output graphically or in the form of lists.
"SPC@Enterprise" offers configurable interfaces to gauges in the processing field. Converters and serial and Ethernet interfaces can also be used and monitoring by mobile end devices with various operating systems is also possible.
With "SPC@Enterprise" you can sample the widest variety of measurement values. The software transfers the measurement data to an SQL database which serves as a central data pool. You can integrate the user management function of your ERP or MES systems into "SPC@Enterprise" via LDAP interfaces.

"SPC@Enterprise" is a software application for controlling filling levels with the following characteristics:
– Central data administration
– Dynamic sample display
– FPC sampling on PC or via Ethernet polling software with connected FPC compact scales
– Fill level control with all tare modes
– Printouts to Windows printer
– Software license management

Architecture and Modules

"SPC@Enterprise" features a modular design. The system architecture allows optimal customization.

System Architecture

"SPC@Enterprise" is a client-server system that can be installed anywhere within the same domain or work group of a company network. Sartorius activates the software following transmission of the respective license system code.

The heart of "SPC@Enterprise" is a database which is installed on a server and operates using MS SQL. The software supports databases from MS SQL Server 2005 Express to MS SQL Server 2008 R2 Enterprise. Evaluations automatically access the entire data pool, regardless of the storage location.
The archiving system, in conjunction with SQL security mechanisms, ensures constant, always-on system performance. You can either connect an existing database or use the supplied, pre-configured database. For operation you need an MS SQL server license.

Various workstations can be connected to the server via Ethernet TCP/IP for the purposes of internal administration, monitoring and analysis as well as for documentation, for example documentation in accordance with finished packaging regulations and IFS, ISO 2200, HACCP and ISO19011. Test stations, for example for fill level control, are also connected via Ethernet TCP/IP.

The system is configured via a central computer that can be located in the office of the department manager or system administrator. By this means, user profiles can be created and managed and product and order data can be created and maintained, in addition to other functions. Also, you can assign products and machines to test stations, monitor manufacturing activities and alarm states, create inspection plans and monitor batches.

The required quality certificates and reports can be printed from the workstation of the responsible quality assurance staff member.

At individual test stations in the production area, the operator can perform tests and sampling and monitor the process via a clearly laid out user interface. The data from the individual test stations are stored in the central database on the server and are then available for analysis and management.

As far as the software is concerned, the system consists of the main application "SPC@Enterprise", which is coupled to the database and acts as a central system, and the terminal application "SPC@Enterprise Sampling" for sampling measurement data on a PC and setting up terminals (see "Entering, Changing or Deleting Product Data" on page 98).

FPC compact scales or one or more test stations with Sartorius terminals and Sartorius compact scales can be connected to the central system.

The following illustration shows an example of the hardware configuration.
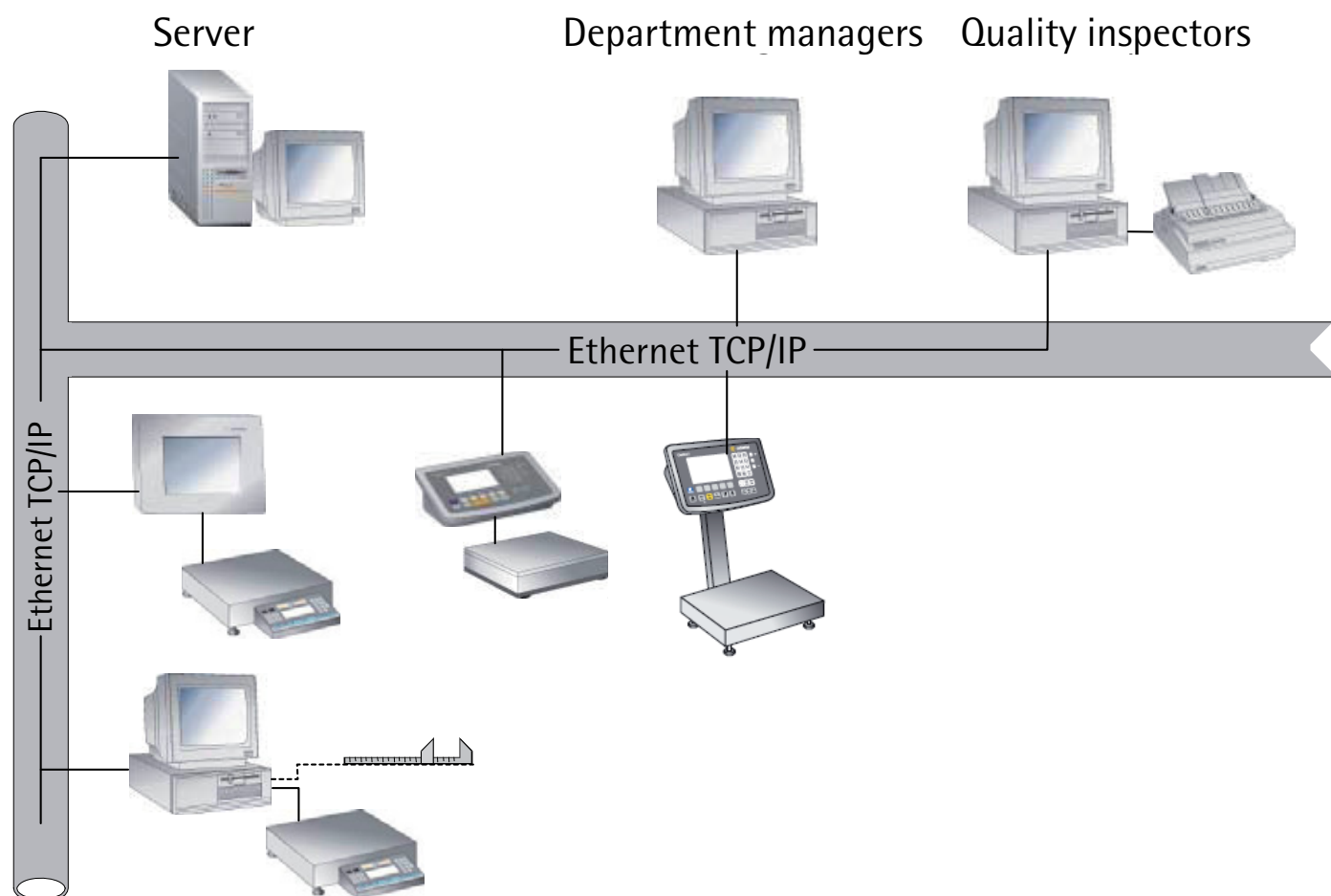
Application and Module Overview

The software "SPC@Enterprise" consists of the application SPC@Enterprise, which is started by selecting the program name "SPC@Enterprise", and the terminal application "SPC@Enterprise Sampling". Both run under "Sartorius AllSuite®".
"Sartorius AllSuite®" serves as the basis for Sartorius applications. It is designed as an open platform and enables the future integration of other applications.
To minimize the learning curve for the user, it provides a uniform operating concept for individual applications, using similar operating elements (see "Configuring Work Orders" on page 118).
The following illustrations give an overview of the menu structure.

Sartorius All Suite® Management

– User Management

– Configuration

– Audit Trail

Access Rights

– User
– User Roles
– Permissions

Base Config

– Config Data
– Copy User Settings

Module Settings

– Electronic Signature

Display

– Audit Trail
– Electronic Signature Display

SPC@Enterprise

SPC@Enterprise
Main Module

Base Data
- Products
- Machine
- Characteristics
- Gauges

Planning
- Quick Planning
- Inspection Plans
- Work Orders

System
- Stations
- Limits
- Comments
- Archived Data

Base Config
- Config Data

SPC@Enterprise
Monitoring

Monitoring
- Monitor
- Alarm List
- Dynamic Sample Display

Configuration
- Alarm Configuration
- Config Data

SPC@Enterprise
Evaluation

Evaluation
- Samples
- Statistics

Base Config
- Config Data

Sampling

Setup menu

Software setup
– Header Data
– Sample
– Violations
– Graphic
– Acknowledgments

Change Working Menu
– Working Menu (Preview)

Gauges
– Add
– Edit

Upload Config
[i] Update Terminal
Configuration from Server

Main Menu

Sample

Tare Weighing

Test Weighing

Density

Evaluation
[i] Product, Machine,
Batch, Work Order,
Inspection Plan

Delete Sample
– Cancelation

Delete Tare
– Cancelation

Comment
– Input

Close Batch
[i] Product, Machine,
Batch, Work Order,
Inspection Plan

After starting the main application "SPC@Enterprise", you can open the applications "SPC@Enterprise" and "Sartorius AllSuite® Management". Generally applicable settings, such as user management settings, are made via the "Sartorius AllSuite® Management" application. These settings then apply to all "AllSuite®" applications and therefore have to be performed once only.

The principle functions of the individual modules are as follows:

Sartorius AllSuite® Management:

User management	For managing user accounts, roles and permissions
Configuration	– For configuring all aspects of "Sartorius AllSuite®" Here you access all settings from a common starting point. – For transferring the roles and permissions of one user account to other user accounts
Audit trail (optional)	For defining and managing electronic signatures for the documentation of activities

SPC@Enterprise:

Main module	– For statistical process control of all characteristics to be qualitatively sampled and analyzed – For managing products, machines, characteristics and gauges – For planning and creating inspection plans and work orders – For managing stations, limits and comments – For archiving data – For configuring the main module
Monitoring	– For displaying and monitoring the limit value violations, alarms and faults logged by the system – For showing the dynamic sample display – For configuring the monitoring module
Evaluation	– For displaying statistics and samples – For configuring the evaluation module

SPC@Enterprise Sampling:

Setup menu	– For configuring the software settings for the test station – For optimizing the working menu – For managing the gauges – For synchronizing data with the server
Main menu	– For performing measurements – For deleting measurement data – For completing batches – For displaying evaluations – For entering comments

Starting / Quitting the Application

Starting the Application

To successfully start the application "SPC@Enterprise", you must ensure that the following conditions are met:
– "SPC@Enterprise" must be correctly installed (see separate installation instructions).
– The supplied - or your own - SQL database must be correctly connected (see separate installation instructions).

▶ Double-click the "SPC@Enterprise" icon on your desktop.
or
▶ In the task bar of your Windows® operating system, click [Start] and select –> "All Programs" –> "Sartorius"–> "SAS Enterprise" –> "SPC@Enterprise Main".
▷ This starts "SPC@Enterprise".
▷ The "User Login" dialog box is displayed.

Logging in for the first time and activating the full version
▶ When logging in for the first time, enter "sartorius" as the user name and "sartorius" as the user password and click [Login].

⚠ You must only use this procedure when you log in as administrator for the first time in order to set up the system. After logging in for the first time, make sure that you change the access data in "Sartorius AllSuite® Management". To do this, please refer to this chapter "Defining Access Rights – User Management" on page 28.

▷ SPC@Enterprise starts.
▶ Click the "AllSuite®" icon on the top left.
▷ The "AllSuite®" menu is displayed.
▶ Select the "SPC@Enterprise" menu item.
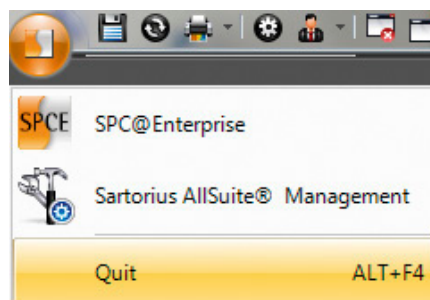
ℹ The main module and the monitoring module of the "SPC@Enterprise" application will first run in demo mode, which you can test for 30 days if required. To activate the full version you have to send the respective license system code to Sartorius.
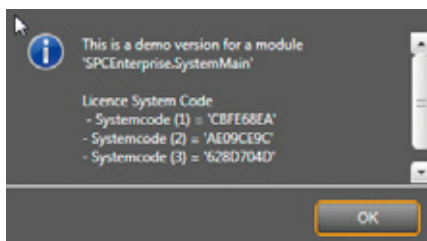
▷ A dialog box with license system codes for the main module of "SPC@Enterprise" is displayed.
▶ Make a note of the license system code and the associated figures and confirm with [OK].
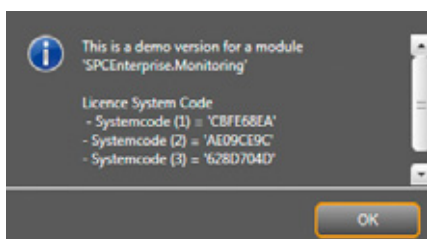
▷ A dialog box with license system codes for the monitoring module of "SPC@Enterprise" is displayed.
▶ Make a note of the license system code and the associated figures and confirm with [OK].
▶ Send the license system code to Sartorius in written form, by e-mail, post or fax, to:

Sartorius, 37070 Goettingen, Germany
Fax no. +49.551.308.3441
SPCEnterprise@sartorius.com

▷ Sartorius will contact you to activate your full version.

Logging in for daily use
▶ Enter your user name and password.

ℹ️ If you don't yet have a user name, contact your system administrator.

▶ Click [Login].
▷ The application "SPC@Enterprise" starts.

▷ The user name of the logged-in user is displayed in the status bar on the bottom right. The current time and date are also displayed alongside.
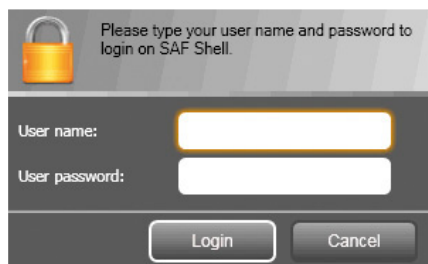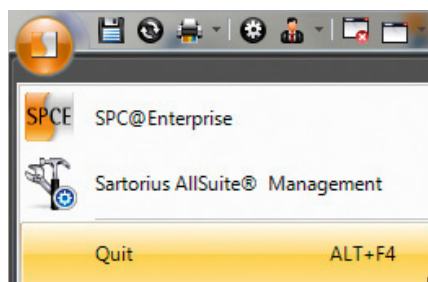
Quitting the Application

▶ Click the "AllSuite®" icon at the top left of the "Sartorius AllSuite®" window and in the menu that opens select "Quit".

or

▶ Press the [ALT] + [F4] keys on your PC keyboard.

or

▶ Click the "Close" icon at the top right of the "Sartorius AllSuite®" window.

▷ A dialog box with a confirmation prompt is displayed.
▶ Confirm with [Yes].
▷ The application is closed.
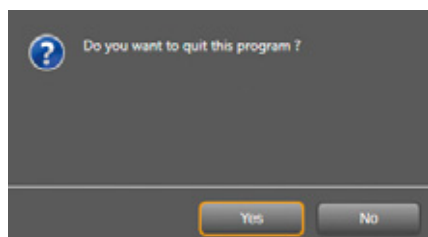
Protecting the Application against Unauthorized Access

To protect your data from access by unauthorized persons, you can lock the application when you leave your PC workstation and unlock it when you return (see "Locking / Unlocking the Application" on page 18); alternatively you can log off and log back on again when you return (see "Logging Users In and Out" on page 18). You can change your password if you suspect that it may have come into the possession of an unauthorized person (see "Changing the Password" on page 18).

The user log in and log out icon, with which you can access the corresponding menu items (see "Quick Access Toolbar" on page 19), is available to you for these settings.

ℹ️ We recommend that you routinely change the password at regular intervals.
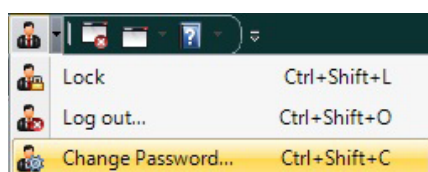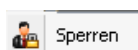
Locking / Unlocking the Application

▶ In the quick access toolbar, click the user log in and log out icon and in the menu select "Lock" or press the [CTRL] + [SHIFT] + [L] keys on your PC keyboard.

▷ The "User Login" dialog box is displayed with the message that the application is locked.

▶ Enter your password.

▷ You are logged in.

ℹ️ If you click [Cancel] instead of entering a password, "Sartorius AllSuite®" shuts down completely.

Logging Users In and Out

If several users work at one workstation, it is necessary for each user to log in and out with his own user name.

User Logout

▶ In the quick access toolbar, click the user log in / log out icon and select "Log out..." in the menu or press the [CTRL] + [SHIFT] + [O] keys on your PC keyboard.

▷ The "Logout" dialog box is displayed.

▶ Click [Logout].

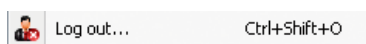▷ All open windows are closed and the "Login" dialog box is opened (see "User Login").

User Login

▶ To log a user back in after that user previously logged out, enter your password in the "Login" dialog box.

▷ You are logged in.

ℹ️ If you click [Cancel] instead of entering a password, "Sartorius AllSuite®" shuts down completely.

Changing the Password

▶ In the quick access toolbar, click the user log in / log out icon and in the menu select "Change password" or press the [CTRL] + [SHIFT] + [C] keys on your PC keyboard.

▷ The "Change Password" dialog box is displayed. The user name of the current user and the date and time of the last login are displayed.

▶ Enter your current password, then enter the new password twice.

▶ Confirm with [OK].

▷ The new password is accepted.
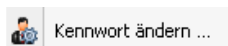
Operating Principle

The user interface of "SPC@Enterprise" is based on the well-known structure of the Windows® interface. The operating elements and buttons are similar in appearance to those of Microsoft® Office 2007.

"SPC@Enterprise" offers a standard window design with the following main components:

– "AllSuite®" icon to open the application menu
– Quick access toolbar
– Ribbon with tabs or menu icon groups
– Application windows divided into panes

AllSuite® Icon and Application Menu

After clicking the "AllSuite®" icon on the top left, the application menu is displayed, in which you can currently start "SPC@Enterprise" or "Sartorius AllSuite® Management", or quit both applications.

Quick Access Toolbar

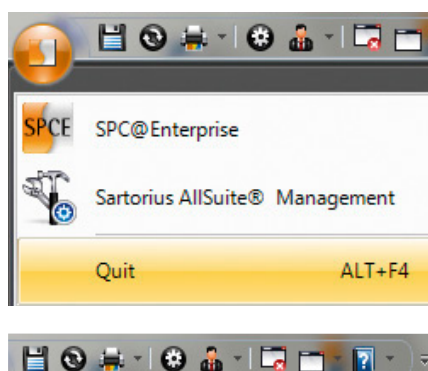In the current software version, the quick access toolbar contains eight icons that are combined into three groups. The toolbar gives you access to the basic functions of the software within each application.

By right-clicking on the ribbon or clicking the corresponding icon in the quick access toolbar (see description below), you can open a context menu which you can use to position the quick access toolbar above or below the ribbon.

The following summary explains the functions of each icon:

Icon	Description
	Saves modified data for the active window
	Updates the data in the active window
	Offers a choice of print functions after a click on the black arrow
	– Prints data from the active window to the installed default printer – Prints data from the active window to a printer of your choice – Displays the print preview for the active window
	Opens the entry screen to manage the application settings (see "Global Settings" on page 27)
	Offers a choice for logging users in and out (see "Protecting the Application against Unauthorized Access" on page 17):
	– Locks "Sartorius AllSuite®" for the current user – Opens a dialog box to log the current user out of "Sartorius AllSuite®" – Opens a dialog box to change the password

Icon	Description
	Closes the active window without saving any changes
	Offers a choice of arrangement for the windows in "Windows"
	– Cascading – Horizontal – Vertical – Zoom view
	Displays content and help context
	– Content: Help for the active application – Content: Help for the active module – Help context: Help context for the active window – About: Information about the application
	Opens a menu for customizing the quick access toolbar
	– Show above/below the ribbon: Displays the quick access toolbar above or below the ribbon. – Minimize the ribbon: Minimizes the ribbon

Ribbon

The ribbon displays tabs and/or menu icon groups.

Tabs
A tab for each program module is displayed in the ribbon. You can access or start the corresponding module with one click.

Menu Icon Groups
Menu icons are arranged on the tabs in one or more menu icon groups. You can access a menu by clicking the corresponding icon.

By right-clicking on the ribbon or clicking the corresponding icon in the quick access toolbar (see "Quick Access Toolbar" on page 19), you can open a context menu which you can use to minimize the ribbon.

Toolbar with Icons	
Lists Pane	Details Pane
	Additional Information Pane
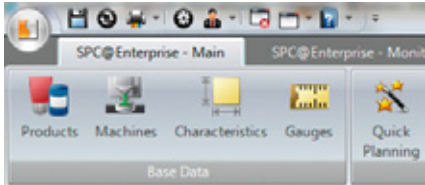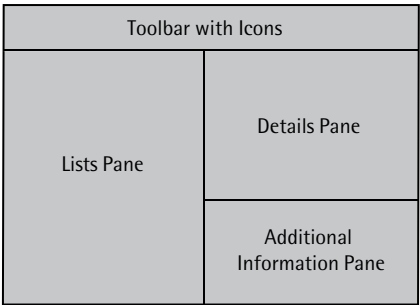
Standard Application Window

The standard application window of "SPC@Enterprise" basically consists of up to four panes:

– An application-specific quick access toolbar with icons
– A pane for lists
– A pane for details
– A pane for additional information such as image or text information

The screenshot shown below provides an example of a standard application window for "SPC@Enterprise".
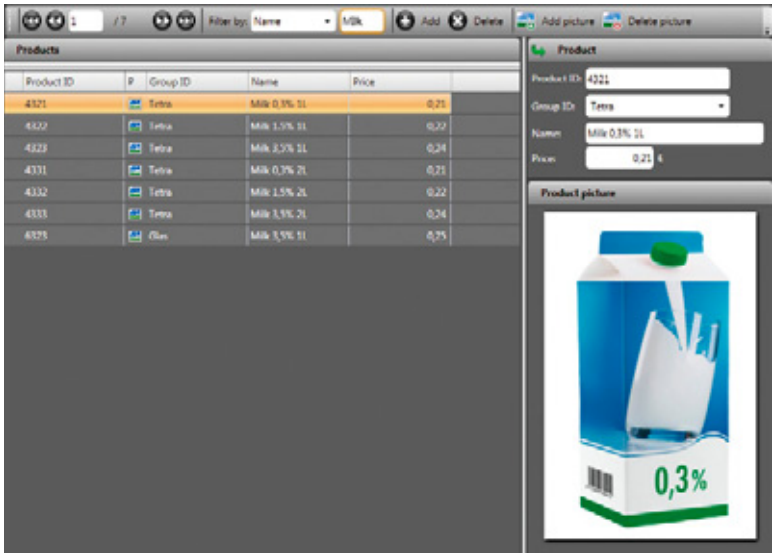
Application-specific Quick Access Toolbar

The application-specific quick access toolbar contains various icons for the application's individual functions and menus. Here you can navigate in the list, filter list items, add or delete items or images, show or hide columns and export or import data.
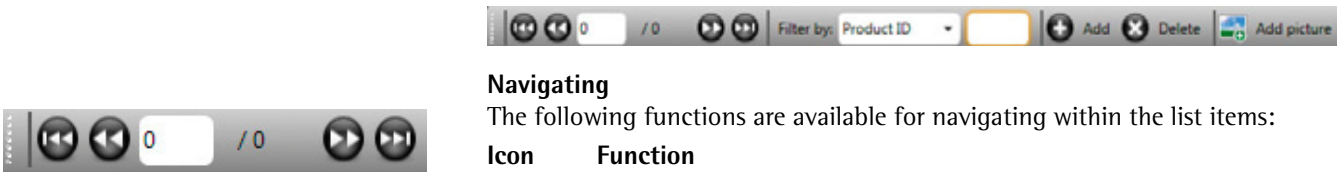
Navigating

The following functions are available for navigating within the list items:

Icon	Function
	Go to the first item in the list
	Go to the previous item in the list
	Go to item X of Y (here: 1 of 4)
	Go to the next item in the list
	Go to the last item in the list
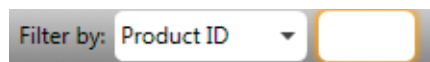
Filtering List Entries

▶ To filter list entries, from the "Filter by" drop-down list select the desired filter criterion, e.g. "Product".

▶ In the box to the right of the drop-down list, enter your filter criteria, e.g. product name.

▷ The list is adjusted accordingly.

Add List Item

▶ To add a new list item, click [Add].

▷ A color-highlighted blank row marked with the status symbol for "Add" is displayed in the list (see "Display Status Information" on page 24).

▷ The corresponding entry screen for the respective list is displayed in the "Details" pane (the product list in this example). Selected fields are shown outlined in yellow.

▶ Enter the data in the fields.

ℹ Implausible values are immediately displayed in red. Fields with missing values are shown outlined in red. A magnifying glass is displayed alongside some input fields. Here you can either open a drop-down list and select from this, or type in a new entry. In some cases you can also make entries that relate to a different list. In this case a popup dialog box informs you accordingly.

▷ The items are transferred directly into the list.

▶ Save the entries by clicking the "Save" icon in the quick access toolbar.

▷ If all entries are correct, the new item is displayed in the list, without the status symbol.

▷ In the case of incorrect entries, a pop-up dialog box is opened with an error message or a list of missing data. The corresponding input field is shown outlined in red.

▶ Check and correct your entries and save them again.

Delete List Item

▶ To delete a list item, select it and click [Delete].

▷ The list item is marked for deletion (see "Display Status Information" on page 24).

▶ To finally delete the list item, click the "Save" icon in the quick access toolbar.

▷ A confirmation request is displayed.

▶ Confirm the request with [Yes].

ℹ If necessary, you can cancel the deletion of the marked list item by again clicking [Delete].
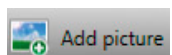
Add Picture

▶ To add a picture to a list item, click [Add picture].

▷ The Windows selection window is opened.

▶ Select the picture you want to add and click [OK].

▷ The picture is displayed in the "Additional Information" pane on the bottom right (see "Standard Application Window" on page 21).

Delete Picture

▶ To delete a picture associated with a list item, select the list item and click [Delete picture].

▷ The picture is deleted.
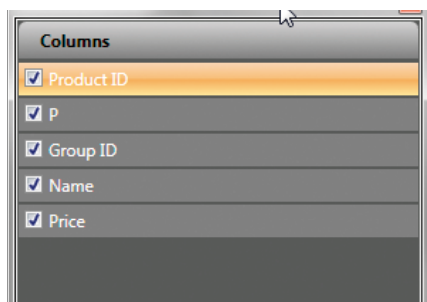
Show / Hide Columns

▶ To show or hide columns for the current list, click [Show/hide column].

▷ A selection window with checkboxes for the individual list columns is displayed.

▶ Enable/disable the checkboxes for the columns as required.

▷ The table is adjusted interactively, i.e. the columns are shown or hidden accordingly.

▶ Close the selection window by clicking the "Save" icon on the top right.

▷ The modified table view is adopted permanently.

ℹ You can change the column view again at any time.
The columns are only hidden, not deleted.
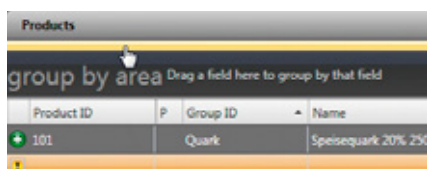
Group by Area

▶ To group the displayed list data by area, left click on the silver-colored toolbar above the "Lists" pane.

▷ The "Group by Area" toolbar is displayed.

▶ Select the column heading for the list items you want to group and drag and drop to the "Group by Area" toolbar.

▷ All list items of this column will be grouped. An icon with the group name is displayed.

ℹ You can cancel the grouping at any time by selecting the icon and dragging and dropping it back to the list.
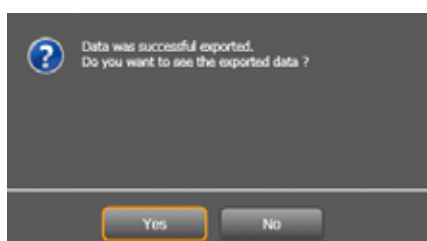
Export Data

▶ To export the list data in a different format (e.g. as an Excel file), click [Export].

▷ The "Save as" window is opened.

▶ Choose the save location and enter the name and format for the data.

▶ Click [Save].

▷ The data are exported.

▷ A dialog box confirms that the export operation was successful.

If necessary, you can retrieve and display the exported data directly:

▶ To do this, click [Yes] in the dialog box.

Import Data
In the user management function of the application "Sartorius AllSuite®
Management", you can also import data, e.g. from an ERP system:
▶ Click [Import].
▷ The "LDAP User Import" window is opened.
▶ Enter the file path to the LDAP directory.
▶ Start the import operation by clicking [Apply].
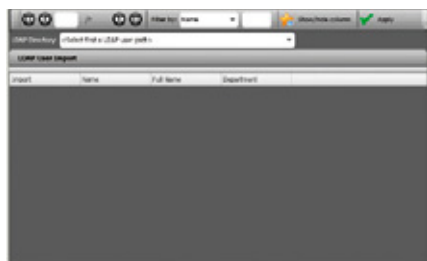
Display Status Information
After you change a list item, it is marked with the corresponding icon. To transfer
the respective change to the database, click the "Save" icon in the quick access
toolbar. The icons have the following meanings:

Icon	Meaning
	Data were added
	Data were changed
	Data are in use and can not be deleted, or data can not be saved due to incorrect or incomplete entries
	Data were changed/manipulated directly in the database
	Data are marked for deletion

▶ Place your cursor on the icon.
▷ The tool tip for for this icon is shown after 2 seconds.

Printing Data

You can print the data from the currently active window to the Windows default
printer. Alternatively, if required you can also make your own print settings or
display a print preview.
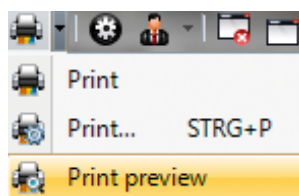
Printing with the Default Printer
▶ Either click the "Print" icon in the quick access toolbar or open the drop-down
list for printing by clicking the arrow and select the top icon in the drop-down
list.
▷ The Windows default printer prints the content of the current window.
The progress of the print operation is indicated in a status window.

Customized Printing
▶ In the drop-down list for printing, click the middle icon or press the [Ctrl+P] key
combination.
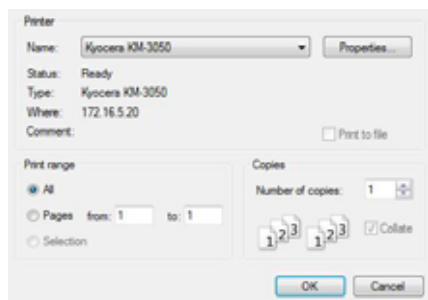
▷ The "Print" window opens.
► Configure the print settings, e.g. printer, print area and number of copies, and confirm with [OK].
▷ The selected printer prints the content of the active window.
  The progress of the print operation is indicated in a status window.
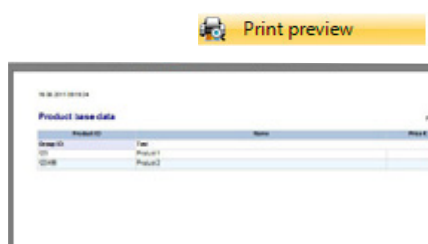
Show Print Preview
► To show a print preview for a report, in the drop-down list for printing click the bottom icon.
▷ The print preview of the window to be printed is displayed. Here you can browse the pages of the report, update the report, open the print dialog, change the layout of the report to be printed, set the page size, export the report data in MS Excel or PDF format, or zoom the print preview.

Help and Tool Tips

Comprehensive help is available for every "Sartorius AllSuite®" application. You can access this via the question mark icon in the quick access toolbar. In addition, if you allow your cursor to hover over an icon, about two seconds later a tool tip is displayed for each icon in the quick access and application-specific toolbars as well as for each menu icon in the ribbon.

Help
► Click the question mark icon in the quick access toolbar.
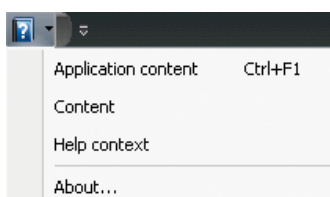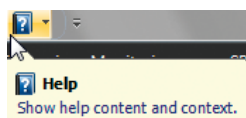
▷ The selection menu for "Help" is displayed. You can access online help for the active application or module, context help for the active window or information about the application.

Online Help for the Active Application
► In the selection menu for "Help", select the first entry or press the [CTRL] + [F1] key combination on your PC keyboard.
▷ The online help window for the active application is opened.
► In the top right pane, display information on the desired application module.
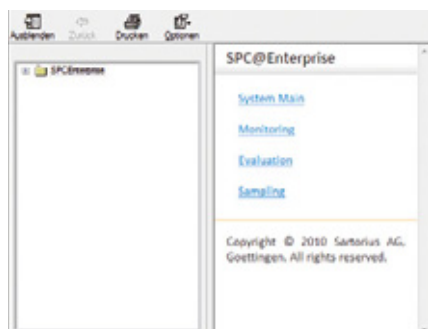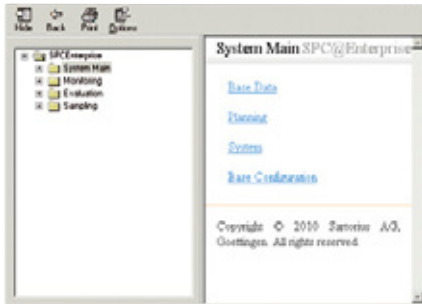
Online Help for the Active Module
► In the selection menu for "Help", select the second item.
▷ The online help window for the active module of the "SPC@Enterprise" application is opened.
► In the top right pane, display information on the module menu of your choice.

Context Help for the Active Window
► In the selection menu for "Help", select the third item ("Context Help").
▷ The online help window for context help is opened. Suitable content relating to the currently edited menu item or window is displayed.

Information about the Application
► In the selection menu for "Help", select the "About..." entry.
▷ A window is displayed which contains information about the application, e.g. information about the installed software modules as well as their version number and file size.
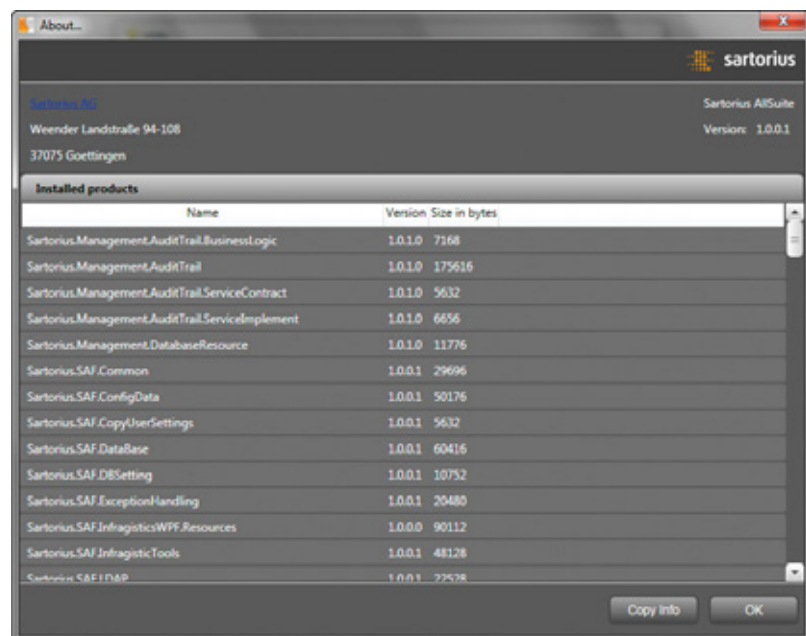
Tool Tips
A tool tip is displayed if, without clicking, you place your cursor on an icon, button, field or menu.
► Move your cursor to the place where you want to access a tool tip.
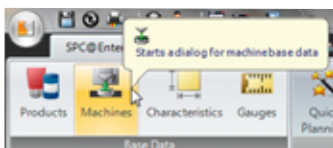
► Allow your cursor to hover there for about two seconds.
▷ The tool tip is displayed in the form of a short, descriptive text.
▷ The tool tip is closed as soon as you move your cursor.
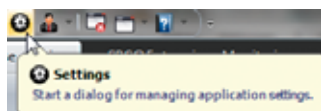
Global Settings

► To make global settings for "SPC@Enterprise", select the corresponding icon in the quick access toolbar (see "Quick Access Toolbar" on page 19).
▷ The "Global Settings" window opens.
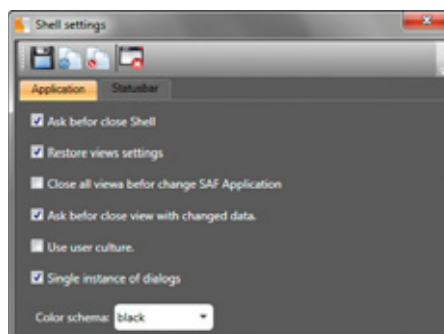
► Select the "Application" or "Status Bar" tab and enable or disable the corresponding checkboxes.
► If necessary, select the desired color scheme for the screen of "SPC@Enterprise" from the drop-down list on the "Application" tab.
► Save your settings by clicking the corresponding icon in the quick access toolbar of the "Global Settings" window (see description below).
▷ The settings are applied and the "Global Settings" window closes.

A quick access toolbar is provided at the top of the entry screen.
The icons have the following functions:

Icon	Function
	Saves all modified data for the active window
	Resets "Sartorius AllSuite®" to the default settings
	Discards all changes made since the last save action for the window
	Closes the active window without saving any changes

The settings made here have no effect on the terminal application "Sartorius SPC@Enterprise **Sampling**".

Defining Access Rights – User Management

Administrators
Administrators operate the user management function. In order to be able to define access rights as an administrator, you need full access to all functions.

General Information

Via the "User Management" tab in "Sartorius AllSuite® Management", you can create and manage user data, user roles and permissions for "SPC@Enterprise" and "SPC@Enterprise Sampling". In this way, you define which users have access to which applications, or parts of applications, and which activities are permitted in each case.
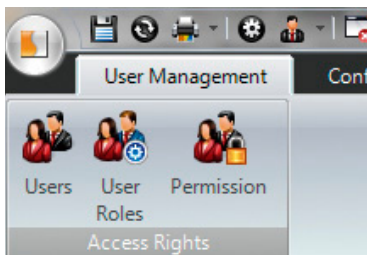
User Groups

Three basic user groups are defined in this manual and identified by the corresponding symbol.

Symbol	Description
	The **Administrator** is a user who performs administrative tasks. He has full access to all data and menus.
	QM Personnel perform tasks in the field of quality management and have access to relevant data and menus for this purpose.
	Production Personnel work in the production area, where they are entrusted, among other things, with setting up and operating test and measuring equipment. Production personnel have read-only rights for some menus. Other menus, for example "User Management" and "Configuration", are generally neither visible to nor can they be edited by this user group.

Naturally, the operator defines the user groups for a factory and the permissions granted to each user group. "Sartorius AllSuite® Management" allows optimal customization of the software, i.e. of both the higher level platform "Sartorius AllSuite®" and the application "SPC@Enterprise" as well as the terminal application "SPC@Enterprise Sampling", in accordance with user-specific requirements.

To access "User Management":
► Click the "Sartorius AllSuite®" icon on the top left.
▷ The "Sartorius AllSuite®" menu is displayed.
► Select the "Sartorius AllSuite® Management" menu item.
▷ The "User Management", "Configuration" and "Audit Trail" tabs for the menu icon groups of "Sartorius AllSuite® Management" are displayed.
► Click the "User Management" tab.
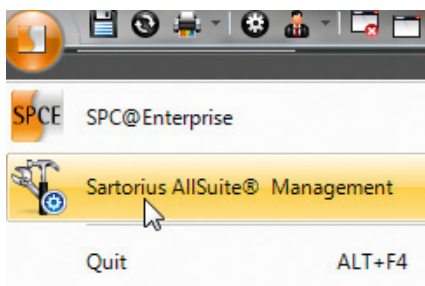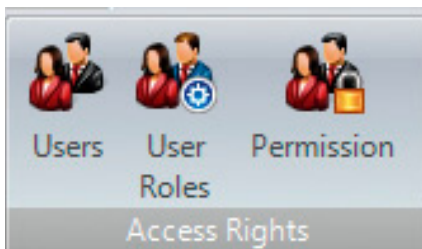
▷ The "Access Rights" menu icon group is displayed.

When working with "Sartorius AllSuite®" for the first time, we recommend that you first create roles with permissions in the "Permission" menu, then create user accounts in the "Users" menu, and finally assign the corresponding roles to the users in the "User Roles" menu.

Managing User Accounts

To create or delete user accounts and to edit user data:
► On the "Access Rights" menu icon group, click the [Users] menu icon.
▷ The "Users" window opens.
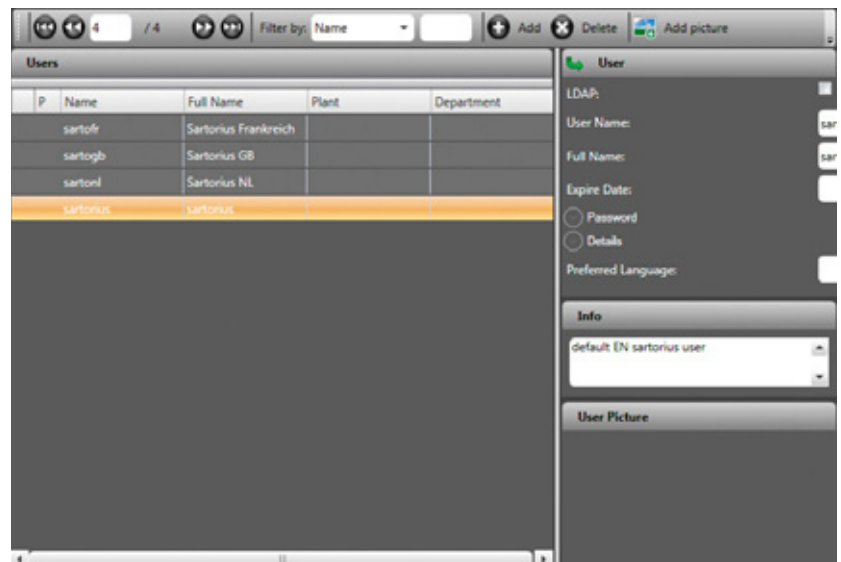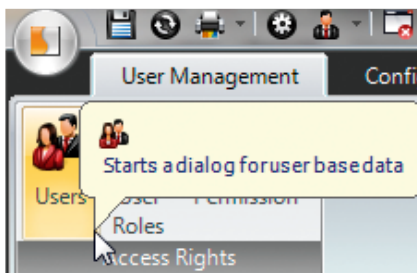
In the "Users" pane on the left, you see a list of existing user accounts. In the "User" pane on the top right, you can read, edit or enter detailed information about the user. The "User Picture" pane on the bottom right shows a picture of the user, if uploaded.

Creating a New User Account

To create a new user account:
► In the quick access toolbar, click the ⊕ Add icon.
▷ A new blank entry is displayed in the "Users" pane on the left, marked with the ⊕ status symbol.
▷ The cursor jumps to the "User" pane where you can enter data about the new user in the fields provided.
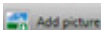
Enter User Data

▶ Enter the following data in the "User" pane:

Name of data field	Input
LDAP	▶ Check this box if the user data are to be obtained from an Exchange server via LDAP interfaces, e.g. "Active Directory".
User Name	▶ Enter the user name with which to authenticate the user logging in to the system.
Full Name	▶ Enter the user's full name.
Expire Date	▶ Set the date on which you want the user account to expire.
Password	▶ Enable/disable this option box to show or hide the data fields for the password.
Password	▶ Enter the password with which to authenticate the user logging in to the system.
Confirm Password	▶ Enter the password again to exclude typing errors.
Expire Period (Days)	▶ Set the validity period in days for the password. When this period expires you have to set a new password.
Login Error Counter	▶ Specify the number of failed user login attempts the system will allow before the user account is locked for security reasons.
Details	▶ Enable/disable this option box to show or hide the data fields for detailed information about the user.
E-mail	▶ Enter the user's e-mail address here as required.
Phone	▶ Enter the user's phone number here as required.
Mobile	▶ Enter the user's mobile phone number here as required.
Plant	▶ Enter the name of the plant where the user works as required.
Department	▶ Enter the name of the department where the user works as required.
Preferred Language	▶ Click the data field to display the drop-down list of available dialog languages for the user interface. ▶ Click the language of your choice.
Info	▶ If necessary, enter any further information about the user that you want to record.

Add User Picture
▶ To add a picture of the user, if required, click the [⬛ Add picture] icon in the quick access toolbar.
▷ The Windows default window for inserting files opens.
▶ Select the image file of your choice and click [Open].
▷ The picture is displayed in the "User Picture" pane.

Save User Account
▶ In the quick access toolbar, click the 💾 icon.
▷ The newly created user account is saved along with its respective settings.
▷ The 🟢 status symbol alongside the list entry is removed.
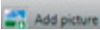
Editing a User Account

ℹ️ You can edit the data of a created user account at any time, in order to reflect changed circumstances (for example, following the transfer of an employee to another factory).

Modify User Data
▶ In the "Users" pane on the left, click the user account for which you want to change the data.
▷ The associated user data are displayed in the "User" pane.
▶ Click the data field you want to edit and enter the new data.
▷ In the "Users" pane, the list item for the user account is marked with the 🟢 status symbol.

Change or Delete User Picture
▶ In the "Users" pane, click the user account for which you want to change or delete the picture.
▶ In the quick access toolbar, click the [⬛ Delete picture] icon.
▶ To add a different picture of the user, if required, click the icon [⬛ Add picture] in the quick access toolbar.
▷ The Windows default window for inserting files opens.
▶ Select the image file of your choice and click [Open].
▷ The picture is displayed in the "User Picture" pane.
▷ In the "Users" pane, the list item for the user account is marked with the 🟢 status symbol.

Save Changes
▶ In the quick access toolbar, click the 💾 icon.
▷ The user account is saved together with the modified settings.
▷ The 🟢 status symbol alongside the list entry disappears.

Importing User Data

If you use an external system, e.g. an Exchange server, to manage personnel data, you can import data from this system:
▶ In the quick access toolbar, click the [⬛ Import] icon.
▷ The "LDAP User Import" window opens.
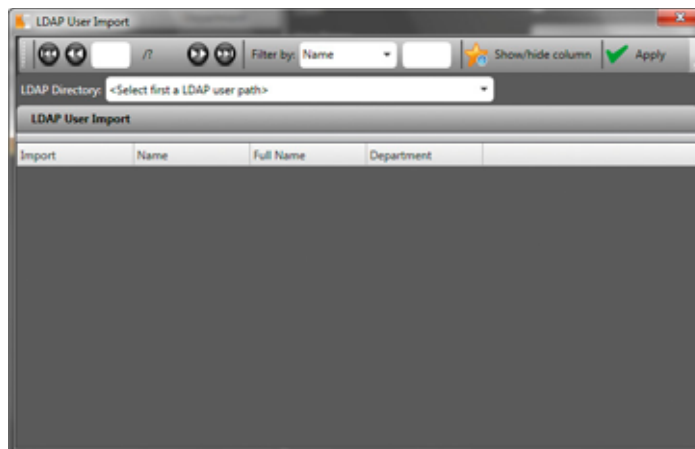
In the "LDAP Directory" drop-down list, click the LDAP directory of your choice or select the path to the desired LDAP user.

▷ The "LDAP User Manager" window opens.

► Enter the user name and password for the LDAP user.

► Select the users whose data you want to import.

► In the quick access toolbar of the "LDAP User Import" window, click the ✔ Apply icon.

▷ The user data are imported.

► In the quick access toolbar, click the 💾 icon.

▷ The imported user data are saved.

Deleting a User Account

If a user account is no longer needed, for example because an employee has left the company, you can delete the user account:

► In the "Users" pane, click the user account that you want to delete.

► In the quick access toolbar, click the ⊗ Delete . icon

▷ In the "Users" pane, the user account is marked with the ⊖ status symbol.

ℹ The user account is not deleted immediately but is marked for deletion. If necessary, you can cancel the deletion of the marked user account by again clicking the icon ⊗ Delete .

► In the quick access toolbar, click the 💾 icon.

▷ A dialog box with a confirmation prompt opens.

► Click [Yes].

▷ The user account is deleted irrevocably.
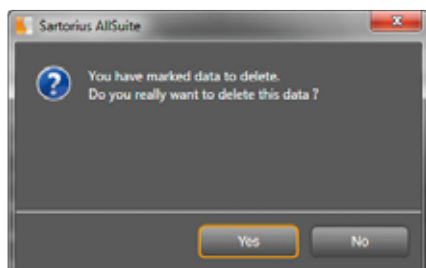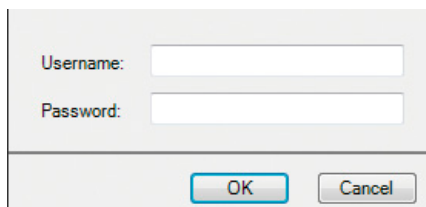
Managing Roles

ℹ️ In this window you can only manage roles that already exist. To create a role see "Managing Permissions" on page 34.

To assign a role to a user or remove an assigned role:
▶ On the "Access Rights" menu icon group, click the [User Roles] menu icon.
▷ The "User Roles" window opens.
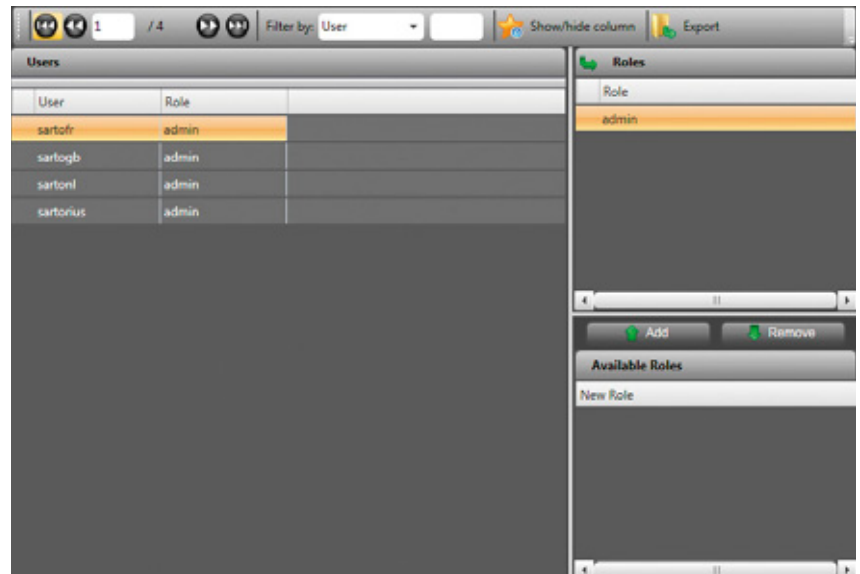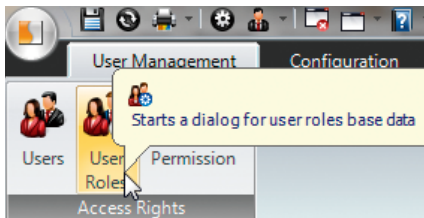
In the "Users" pane on the left, a list of user accounts is displayed together with the respective assigned roles. The "Role" pane on the top right displays the roles for the selected user account. In the "Available Roles" pane on the bottom right, you can select a role from a list and assign it to a user account or remove an assigned role.

Assigning a Role

▶ In the "Users" pane, click the user to whom you want to assign an available role.
▷ Roles which were already assigned to the user, where applicable, are displayed in the "Roles" pane.
▷ Available roles are displayed in the "Available Roles" pane on the bottom right.
▶ In the "Available Roles" pane, click the role that you want to assign.
▶ In the quick access toolbar of the "Available Roles" pane, click the [Add] icon.
▷ The newly assigned role is displayed in the "Roles" pane.
▷ The corresponding entry is marked with the ⊕ status symbol in both the "Users" pane and the "Roles" pane.
▶ In the quick access toolbar, click 💾.
▷ The user account is saved together with the modified settings.
▷ The ⊕ status symbol alongside the list entry is removed.
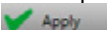
Removing a Role

ⓘ This procedure only removes the association between the role and the user. The role is retained together with its permissions and can be reassigned at any time.

▶ In the "Users" pane, click the user from whom you want to remove an assigned role.

▷ All roles which were assigned to the user are displayed in the "Roles" pane.

▶ In the "Roles" pane, click the role that you want to remove.

▶ In the quick access toolbar of the "Available Roles" pane, click the ⬛ Remove icon.

▷ The role is removed from the "Lists" and "Details" panes and displayed in the "Additional Information" pane instead.

▶ In the quick access toolbar, click the 🖫 icon.

▷ The changes are saved.

Managing Permissions

To create roles and assign permissions to roles for the individual objects of the respective applications in "Sartorius AllSuite® Management", "SPC@Enterprise - Sampling" and "SPC@Enterprise":

▶ On the "Access Rights" menu icon group, click the [Permissions] menu icon.

▷ The "Permissions" window opens.
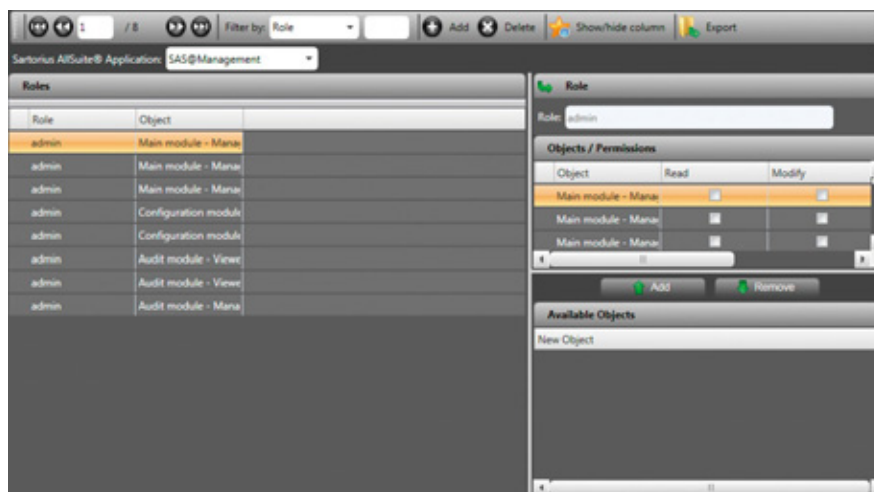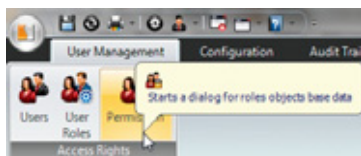
In the "Roles" pane on the left, a list of assigned roles is displayed together with the respective assigned objects. In the "Role" pane on the top right, you can enter the name of a new role and define the access rights for the respective object. In the "Available Objects" pane on the bottom right, you can select an object from a list and assign it to a role or remove an assigned object.

The following objects are available for the individual applications:

Sartorius AllSuite® Management

Module	Object
Audit Module	Manage audit settings and electronic signatures
Audit Module	Viewer for electronic signatures
Audit Module	Viewer for audit data
Config Module	Manage configuration
Main Module	Manage role functions
Main Module	Manage users
Main Module	Manage roles

SPC@Enterprise Sampling

Module	Object
Sampling	Delete initial weight
Sampling	Change density
Sampling	Confirm max. cumulated standard deviation violation
Sampling	Acknowledge cum.mean value < nominal violation
Sampling	Quit sampling
Sampling	Show cum. statistics
Sampling	Acknowledge -T/LCL violation
Sampling	Acknowledge -T2/LTL violation
Sampling	Acknowledge -T1/LWL violation
Sampling	Open main menu
Sampling	Acknowledge max. std. dev. violation
Sampling	Acknowledge mean value < nominal violation
Sampling	Perform sampling
Sampling	Cancel sample
Sampling	Software setup
Sampling	Start sampling
Sampling	Tare weighing
Sampling	Acknowledge T1/UCL violation
Sampling	Acknowledge +T3/UTL violation
Sampling	Acknowledge +T2/UWL violation
Sampling	Sampling

SPC@Enterprise

Module	Object
Automatic Statistics	Configuration
Evaluation	Manage sample evaluation
Evaluation	Manage statistics evaluation
Monitoring	Manage alarm configuration monitor
Monitoring	Manage alarm list
Monitoring	Manage monitoring configuration
Monitoring	Manage sample data display format
Monitoring	Manage monitor
Main Module	Manage data archiving
Main Module	Manage attributes
Main Module	Manage auto statistic printout
Main Module	Manage characteristics
Main Module	Manage sample comments
Main Module	Manage main module configuration
Main Module	Import data
Main Module	Manage gauge groups
Main Module	Manage gauge details
Main Module	Manage limits
Main Module	Manage machines
Main Module	Manage inspection plans
Main Module	Manage products
Main Module	Start simplified planning
Main Module	Manage station configuration
Main Module	Manage work orders

In the "Available Objects" pane, only those objects which were not yet assigned to the role are displayed. If you remove an object to which you had earlier assigned a role, this object is again displayed in the list in the "Available Objects" pane.

The user interface of the applications "Sartorius AllSuite® Management", "SPC@Enterprise - Sampling" and "SPC@Enterprise" changes for the respective user to whom the role is assigned, in accordance with the objects to which a role has access. Icons and menu items are not displayed for non-assigned objects.

Creating a Role

To create a new role:

▶ From the "Sartorius AllSuite®" drop-down list on the top left, select the application "SPC@Management", "SPC@Enterprise - Sampling" or "SPC@Enterprise".

SPC@Enterprise ▼

SAS@Management
SPC@Enterprise - Sampling
SPC@Enterprise
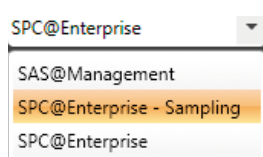
► In the quick access toolbar, click the ⊕ Add icon.
▷ A new, blank entry is displayed in the "Roles" pane, marked with the ⊕ status symbol.
▷ The cursor jumps to the "Role" pane.
► In the "Role" data field, enter a name for the new role.
►

> ℹ Once saved, a role name can no longer be changed.

> ℹ You have to assign an object to the newly created role.
> If you attempt to save an unconfigured role, the following error message is displayed:
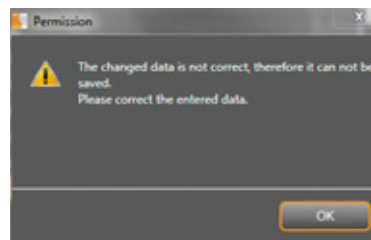
► In the "Available Objects" pane, click the object that you want to assign to the role.
► In the quick access toolbar of the "Available Objects" pane, click the ⊕ Add icon.
▷ The newly assigned object is displayed in the "Role" pane.
► In the "Role" pane, click the checkbox for the access right ("Read", "Modify", "Create & Modify" or "Full Access") that you want to give to the role for the corresponding object.

The individual access rights contain the following permissions:

Access Right	Permission
Read	Data can be read but not modified. The corresponding data fields are grayed and do not permit any input.
Modify	Data can be read and edited. The corresponding data fields are white and can be edited. It is not possible to create new data (e.g. list items).
Create & Modify	New data (e.g. list items) can be created and existing data can be edited.
Full Access	Unlimited write and read access to all data is possible.

▶ If necessary, assign other objects to the role and define the access rights (as described above).

ℹ You can assign different access rights for the individual objects of a role. Hence the system is extremely flexible and can be adapted to the requirements of a given workstation.

▶ In the quick access toolbar, click 💾.
▷ The role is saved together with its respective settings.
▷ The ⊕ status symbol alongside the list entry is removed.

ℹ You have to "save" before you can assign other objects to the role for a different application. Otherwise the following error message is displayed:
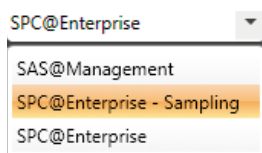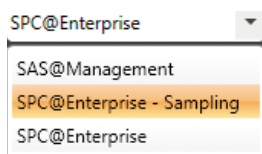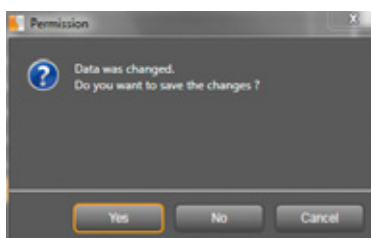
▶ If required, select another application for which you want to assign objects to the role from the "Sartorius AllSuite®" drop-down list on the top right.
▶ Repeat the steps described above for this application.

Changing a Role Configuration

▶ From the "Sartorius AllSuite®" drop-down list on the top left, select the application ("SPC@Management", "SPC@Enterprise - Sampling" or "SPC@Enterprise") for which you want to modify a role.
▶ In the "Roles" pane on the left, click the role for which you want to modify the configuration.
▶ To change the access rights for an existing object, in the "Role" pane on the top right click the checkbox for the corresponding access right.
▶ To add a new object, in the "Available Objects" pane click the corresponding object that you want to assign to the role.
▶ In the quick access toolbar of the "Available Objects" pane, click the ▣ Add icon.
▷ The newly assigned object is displayed in the "Role" pane.
▷ The corresponding item is marked with the ⊕ status symbol in both the "Lists" pane and the "Details" pane.
▶ In the "Role" pane, click the checkbox for the access right ("Read", "Modify", "Create & Modify" or "Full Access") that you want to give to the role for the corresponding object.
▶ To remove an object, in the "Role" pane click the entry for the respective object.
▶ In the quick access toolbar of the "Available Objects" pane, click the ▣ Remove icon.

▷ The object is removed from both the "Lists" pane and the "Details" pane and displayed in the "Additional Information" pane instead.

▶ In the quick access toolbar, click the 🖫 icon.

▷ The changes are saved.

Deleting a Role

ℹ️ You can only fully delete a role if you delete all list items for this role for all three applications. If more than one list item still exists (including items for a different application), only the assigned objects are removed. The actual list item is retained without an assigned object.
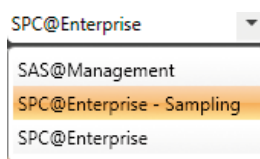
▶ From the "Sartorius AllSuite®" drop-down list on the top left, select the application "SPC@Management", "SPC@Enterprise - Sampling" or "SPC@Enterprise".

▶ In the "Roles" pane, highlight all items for the role that you want to delete.

▶ In the quick access toolbar, click the ⊗ Delete icon.

▷ In the "Roles" pane, the list items for the role are marked with the ⊖ status symbol.

ℹ️ The list items for the role are not deleted immediately but are marked for deletion. If necessary, you can cancel the deletion of the marked items by again clicking the ⊗ Delete icon.

▶ In the quick access toolbar, click the 🖫 icon.

▷ A dialog box with a confirmation prompt is displayed.
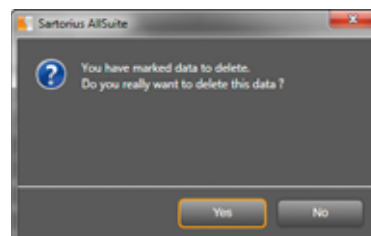
▶ Click [Yes].

▷ If other list items for this role exist for other applications, all except one are deleted.

▶ Where appropriate, select the next application from the "Sartorius AllSuite®" drop-down list on the top left.

▶ Repeat the steps described above until all list items for the role have been deleted for all applications.

▷ The role is deleted irrevocably.
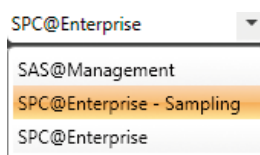
Assiging Roles and Permissions from One User Account to Other User Accounts

After you have created and set up a user account, you can transfer its roles and permissions to other user accounts. Therefore, if you want to set up a number of user accounts with the same roles and permissions, for example user accounts for employees who perform inspections, you can do this very quickly.

▶ Create all the user accounts to which you want to assign the same roles and permissions (see "Creating a New User Account" on page 29).

▶ Assign the roles and permissions that you want to transfer to the other user accounts to one of these user accounts (see "Assigning a Role" on page 33 and "Managing Permissions" on page 34).

▶ Click the tab of the "Configuration" menu icon group.

▷ The "Base Config" menu icon group is displayed.

▶ In the "Base Config" menu icon group, click "Copy User Settings".

▷ The "Copy User Settings" window opens.
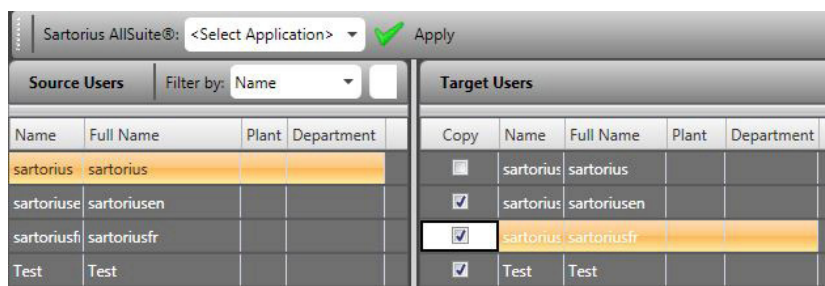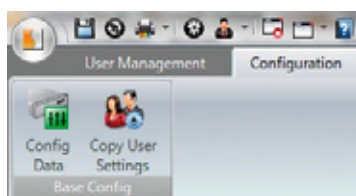
All user accounts that are potential sources for transferring roles and permissions are displayed in the "Source" pane; all user accounts that are potential targets for transferring roles and permissions are displayed in the "Target" pane.
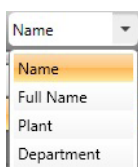
You can filter both the "Source" and "Target" panes by selecting a category from the "Filter by" drop-down list and entering the characters by which you want to filter in the next field.
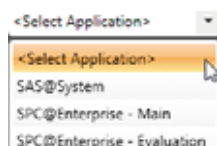
▶ From the "Sartorius AllSuite®" drop-down list, select the application to which the user accounts belong and whose roles and permissions you want to transfer.

▶ In the "Source" pane, click the row of the user account whose roles and permissions you want to transfer to other user accounts.

▶ In the "Target" pane, click the checkbox of all user accounts which you want to adopt the roles and permissions.
You can select all user accounts in the "Target" pane by right-clicking and then, in the context menu, clicking "Select All". You can deselect your selection in the "Target" pane by right-clicking and then, in the context menu, clicking "Deselect All Items". You can invert your selection in the "Target" pane by right-clicking and then, in the context menu, clicking "Invert Selection".
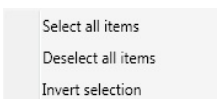
► Click [Apply].
▷ The "Confirmation Needed" dialog box is displayed.
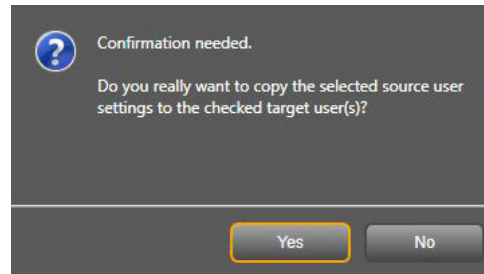
To transfer the roles and permissions of the "Source" user account to the "Target" user accounts:
► Click [Yes].
▷ All "Target" user accounts are given the same roles with the same permissions as the "Source" user account.

If the "Selection is not valid" dialog box is opened instead:
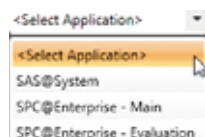
► Click [OK].
► From the "Sartorius AllSuite®" drop-down list, select the application to which the user accounts belong and whose roles and permissions you want to transfer.

► Click [Apply] again.

Configuring Settings – Configuration

Administrators
Administrators manage the settings. You need full access to all objects in order to be able to configure settings as an administrator.

General Information

You can define the settings for the application "SPC@Enterprise" and the terminal application "SPC@Enterprise Sampling" via the "Configuration" tab in "Sartorius AllSuite® Management".
To access the settings:
▶ Click the "Sartorius AllSuite®" icon.
▷ The "Sartorius AllSuite®" application menu is displayed.
▶ Click the "AllSuite® Management" menu item.
▷ The "User Management", "Configuration" and "Audit Trail" tabs for the menu icon groups of "AllSuite® Management" are displayed.
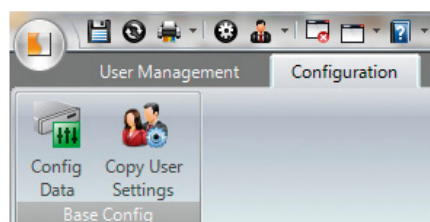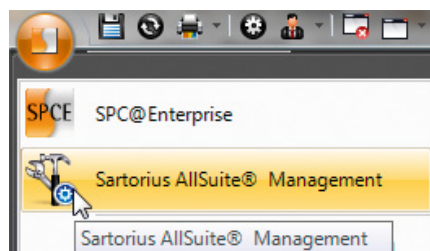
▶ Click the tab of the "Configuration" menu icon group.
▷ The menu icon for the base configuration is displayed.
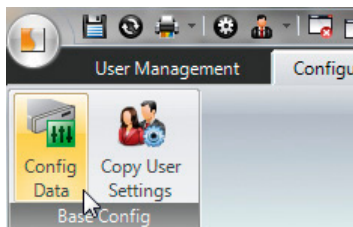
▶ In the menu icon group, click "Config Data".

Provided that you have the corresponding rights, the "Config Data" menu icon group is also displayed in the various modules (main module, monitoring module and evaluation module).

▷ The "Configuration" and "Properties" panes are displayed.
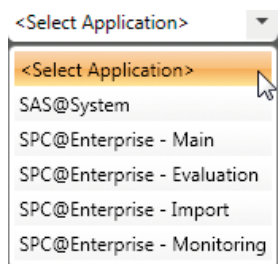
▶ Click the "Sartorius AllSuite®" drop-down list and select the module for which you want to display or modify the configuration:
– **SPC@System** (see "Configuring the System" on page 43)
– **SPC@Enterprise – Main Module**
  (see "Configuring the Main Module of "SPC@Enterprise"" on page 47)
– **SPC@Enterprise – Evaluation**
  (see "Configuring "SPC@Enterprise Evaluation"" on page 57)
– **SPC@Enterprise – Import**
  (see "Configuring the Import Function of "SPC@Enterprise"" on page 73)
– **SPC@Enterprise – Monitoring**
  (see "Configuring "SPC@Enterprise Monitoring"" on page 76)

Saving or Discarding Modified Default Settings

▷ If you made changes in the "Properties" pane of the individual modules, the ⬤ icon is displayed in front of the respective list item.

Saving Modified Default Settings

▶ In the quick access toolbar, click the ▤ icon.
▷ The "Configuration" dialog is displayed with the message that "SPC@Enterprise" has to be restarted.
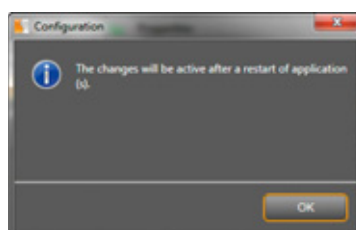
▶ Click [OK] and restart "SPC@Enterprise".
▷ The changes are saved and are now active.

Discarding Modified Default Settings Without Saving

▶ In the quick access toolbar, click the ⟳ icon.
▷ The "Configuration" dialog is displayed, asking whether you want to discard the changes.
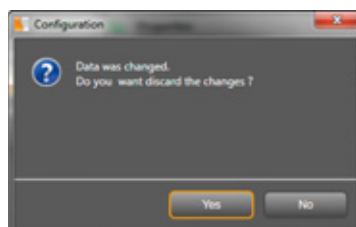
▶ Click [Yes].
▷ The changes are discarded and not saved.

Configuring the System
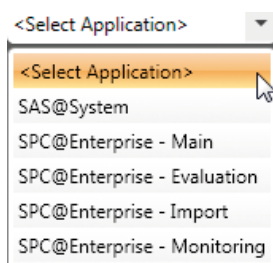
▶ From the "Sartorius AllSuite®" drop-down list, select the application "SAS@System".
▷ The "Configuration" and "Properties" panes are displayed.
The application "SAS@System" is used to define the settings for all Sartorius AllSuite® modules. Configuration comprises two levels:
– System (**System Configuration**)
  Here you define the user name and password settings as well as the company's name and logo.
– Client Application (**Configuration of the Client Application**)
  Here you define the settings of the client applications for the Microsoft SQL Server 2005/2008 on which the application "SPC@Enterprise" and the terminal application "SPC@Enterprise Sampling" are installed.

Performing the System Configuration

Perform General Settings

You define the user name and password settings as well as the company's name and logo via the "System Config" list item.

▶ In the "Configuration" pane, click "System Config".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Max. length of user name	▶ Set the maximum number of characters for the user name (1 to 50 characters)
Min. length of user name	▶ Set the minimum number of characters for the user name (at least 1 character)
Max. length of user password	▶ Set the maximum number of characters for passwords (1 to 50 characters)
Min. length of user password	▶ Set the minimum number of characters for passwords (at least 1 character)
Max. attempts for login	▶ Set the maximum number of login attempts before the application is locked. Administrator rights are required to subsequently unlock the application.
Timer interval for locking [min]	▶ Set the time in minutes after which the application is automatically locked. To continue working, you have to login again with your user name and password.
Not available password characters	▶ Set the characters that may not be used in passwords (e.g. system characters "<>\/"). Do not use a separator between the prohibited characters.
Login – Restore user name	▶ From the drop-down list, select which user you want to be displayed the next time the application starts (possible settings: "None", "Windows user" or "Last user").
Company name	▶ Enter the name of your company here. This company name is displayed on all printouts (see "Automatic Statistics Printout" on page 112).
Company logo	To select a company logo: ▶ Click ▣ to select a company logo (possible formats: PNG, BMP, TIF, JPEG, JPG or GIF). This company logo is displayed on all printouts (see "Automatic Statistics Printout" on page 112). Note the image resolution of approx. 800 × 400 pixels. Te remove a selected company logo: ▶ Click [Remove].

Name of data field	Input
Password expire period [days]	▶ Set the number of days after which passwords will expire. After this number of days has expired, a request to enter a new password is displayed on next login.

Configuring the Client Application

Via the "Configuration of Client Applications" list item, define the settings for the Microsoft SQL server on which the application "SPC@Enterprise" and the terminal application "SPC@Enterprise Sampling" save all data.

Select SQL Database

To select the Microsoft SQL Server 2005/2008 database:
▶ In the "Configuration" pane, click "App config client – Database server".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Server name	▶ Enter here the name of the Microsoft SQL Server 2005/2008 on which the application "SPC@Enterprise" and the terminal application "SPC@Enterprise Sampling" save all data. Please note the input format: "COMPUTERNAME\ SQL-SERVERNAME"
Database name	▶ Enter here the name of the SQL database on which the application "Sartorius ProControl@Enterprise" and the terminal application "SPC@Enterprise Sampling" save all data.

Select LDAP Server

If you use an LDAP server to provide user accounts (see "Importing User Data" on page 31):

▶ In the "Configuration" pane, click "App config client - LDAP".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
LDAP Directory	▶ Enter here the directory path of the LDAP server that provides the user profiles for the "Sartorius AllSuite®" modules.
Domain User Name	If the domain user name is not provided via the LDAP server: ▶ Enter here the domain name of the user accounts that will be used for the user profiles.
Default User Name	If you create a default user for access to the LDAP server, this default user is logged in automatically: ▶ Enter here the user name for access to the LDAP server.
Default User Password	▶ Enter here the password for access to the LDAP server.
LDAP User Directory	▶ Click ▢ to select the user path on the LDAP server. ▷ The "LDAP User Directory" window is opened.
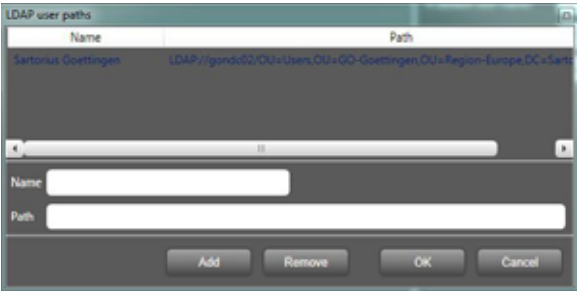
To create a new LDAP user directory:

▶ In the "Name" text box, enter a name for the LDAP user directory.

▶ In the "Directory" text box, enter the path to the LDAP user directory.

▶ Click [Add] to save the LDAP user directory.

Name of data field	Input
	To select an existing LDAP user directory: ▶ In the "Name - Directory" list, select an LDAP user directory. ▶ Click [OK]. To delete an existing LDAP user directory: ▶ In the "Name - Directory" list, select an LDAP user directory. ▶ Click [Remove].
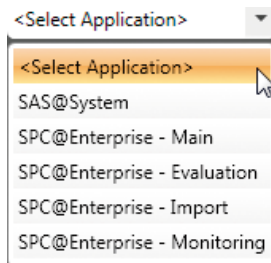
Configuring the Main Module of "SPC@Enterprise"

▶ From the "Sartorius AllSuite®" drop-down list select the application "SPC@Enterprise - Main".

▷ The "Configuration" and "Properties" panes are displayed.

Via the application "SPC@Enterprise - Main", you define individual settings for statistical process control that are applicable to all "SPC@Enterprise" modules. Configuration comprises five levels:

– **General System**
  Here you define which base data can be configured, how inspection plans and work orders are named and how test stations can be configured.
– **Archive**
  Here you define the settings for archiving product data, statistics and reports.
– **Statistic Times**
  Here you specify settings for production shift times and calendar data.
– **Automatic Statistics Printout**
  Here you specify settings for the automatic statistics printout.
– **Planning Defaults**
  Here you specify which statistics printouts are set as defaults in inspection planning.

Performing the General System Configuration

Perform General Settings   Via the "General System" list item, you specify which base data can be configured, how inspection plans and work orders are named and how test stations can be configured.

► In the "Configuration" pane, click "General System".

► Enter the following data in the "Properties" pane:

Name of data field	Input
Company name	► Enter the name of your company here. This company name is displayed on all printouts (see "Automatic Statistics Printout" on page 112).
Company logo	To select a company logo: ► Click ▣ to select a company logo (possible formats: PNG, BMP, TIF, JPEG, JPG or GIF). This company logo is displayed on all printouts (see "Automatic Statistics Printout" on page 112). Note the image resolution of approx. 800 × 400 pixels. Te remove a selected company logo: ► Click [Remove].
Country for limits	► From the drop-down list, select the desired definition of tolerance limits (possible limit defaults: "FPC (EU)", "NL" or "US").
Machines	To enable the input of data for filling machines: ► Enable this function.
Batches	To enable the input of batch descriptions: ► Enable this function.
Filling heads	To enable the input of filling head numbers: ► Enable this function.
Supplement	To enable the input of supplements: ► Enable this function.
Culture	► Select a language from the drop-down list (possible languages: "German", "English (USA)").
Sample size tare	► Enter the sample size for tare weighing.
Sample size density	► Enter the sample size for density determination.
Use intervals	To enable the configuration of test intervals for sampling: ► Enable this function.

Configure "Quick Planning"

Via the "Quick Planning" list item, specify how inspection plans and work orders are named.

► In the "Configuration" pane, click "General System - Quick Planning".
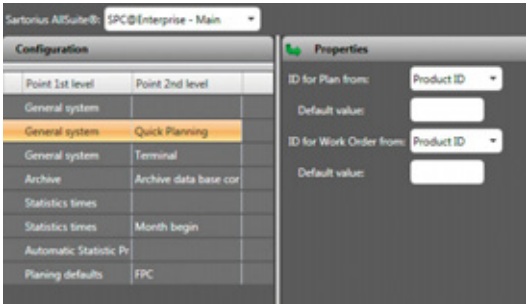
► Enter the following data in the "Properties" pane:

Name of data field	Input
ID for Plan from	► Select from the "Product" drop-down list to give inspection plans the name of the product to be tested. Or: ► Select from the "Default" drop-down list to give inspection plans the name shown in the "Default value" box.
Default Setting	If you selected the "Default" value for "ID for Plan from": ► Enter a name for the inspection plans.
ID for Work Order from	► Select from the "Product" drop-down list to give work orders the name of the product to be tested. Or: ► Select from the "Default" drop-down list to give work orders the name shown in the "Default value" box.
Default Setting	If you selected the "Default" value for "ID for Work Order from": ► Enter a name for the work orders.

Configure Terminal

Via the "Terminal" list entry, you specify how test stations that use the terminal application "SPC@Enterprise Sampling" can be configured.
▶ In the "Configuration" pane, click "General System - Terminal".
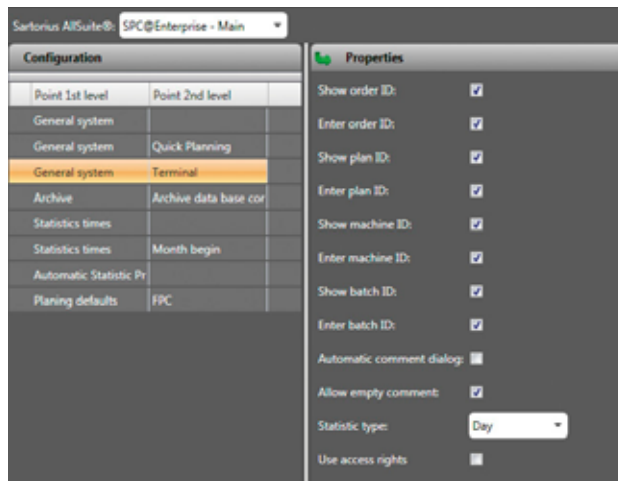
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show order ID	If you want the current work order to be displayed in the terminal application "SPC@Enterprise Sampling": ▶ Enable this function.
Enter order ID	If you want to enable the input of a work order: ▶ Enable this function.
Show plan ID	If you want the inspection plan to be displayed: ▶ Enable this function.
Enter plan ID	If you want to enable the input of an inspection plan: ▶ Enable this function.
Show machine ID	If you want the filling machine assigned to the test station to be displayed: ▶ Enable this function.
Enter machine ID	If you want to enable the input of a filling machine: ▶ Enable this function.
Show batch ID	If you want batch descriptions to be displayed: ▶ Enable this function.
Enter batch ID	If you want to enable the input of a batch at the terminal: ▶ Enable this function.
Automatic comment dialog	If you want a request to enter a comment to be generated automatically: ▶ Enable this function.
Allow empty comment	If you want to allow an empty comment: ▶ Enable this function.
Statistics type	▶ From the drop-down list, select a statistics type to be used for calculations at the test station, and which you want to be displayed (possible statistics types: "Hour", "Batch", "Shift" and "Day").

Name of data field	Input
Use access rights	If you want to use authentications for the test station: ▶ Enable this function.

Setting Up Data Archiving

Perform Archiving Settings

Via the "Archive" list item, specify the settings for automatic and manual data archiving (see "Archiving" on page 206).

> ℹ Archiving of data does not replace hard disk backup. Secure your data by means of regular backups on independent storage media to prevent loss of data.

▶ In the "Configuration" pane, click "Archive – Archive database configuration".

▶ Enter the following data in the "Properties" pane:

Name of the data field	Input
Archive database server	▶ Enter here the name of the Microsoft SQL Server 2005/2008 on which "Sartorius ProControl@Enterprise" and the terminal application "SPC@Enterprise Sampling" save the data archive. Please note the input format: "COMPUTERNAME\ SQL-SERVERNAME"
Archive database path	▶ Enter here the directory path to the database in which the application "Sartorius ProControl@Enterprise" and the terminal application "SPC@Enterprise Sampling" save the data archive. Please note the input format for the path: C:\EnterpriseDB

Name of the data field	Input
User	If you create a user for access to the data archive, this user is logged in automatically: ▶ Enter here the user name for access to the data archive.
Password	▶ Enter here the password for access to the data archive.
Create a new archive Db	▶ From the drop-down list, select an interval for the creation of a new archive database (possible intervals: "After × months", "Each time").
× months	If you selected the "After × months" interval for "Create a new archive Db": ▶ From the drop-down list, select a monthly interval for the creation of a new archive database (possible monthly intervals: 1 to 12).
Close batches older than weeks	If you want to automatically close and archive completed batches: ▶ Specify the number of weeks after which the batches are to be filed in the archive database (possible entries: 1 to 52 weeks; if no entry is made batches are never closed).
Archive sample older than weeks	If you want to automatically close and archive completed samples: ▶ Specify the number of weeks after which the samples are to be filed in the archive database (possible entries: 1 to 52 weeks; if no entry is made samples are never closed)
Create archive data	▶ From the drop-down list, select an interval for the creation of archive data (possible intervals: "Yearly", "Monthly", "Weekly" and "Daily").
Start time	If you selected the "Yearly", "Monthly", "Weekly" or "Daily" interval for "Create archive data": ▶ Enter a time (possible time format: HH:MM)
Day of week	If you selected the "Weekly" interval for "Create archive data": ▶ Specify a day of the week (possible input: Sunday to Saturday).
Day of month	If you selected the "Yearly" or "Monthly" interval for "Create archive data": ▶ Specify a day of the month (possible inputs: 1 to 31).
Month	If you selected the "Yearly" interval for "Create archive data": ▶ Specify a month (possible input: January to December).

Setting Statistics Times

Perform General Settings

Via the "Statistics times" list item, you specify the general condition for statistics printouts.

► In the "Configuration" pane, click "Statistics times".

► Enter the following data in the "Properties" pane:

Name of data field	Input
Shift begin and end	
Begin of shift 1 to 4	► Specify the respective shift start time (possible time format: HH:MM). The following shift start time is also deemed to be a shift finish time.
Begin of week	
First day of week	► From the drop-down list, select a day of the week from which you want the week to be counted (possible selection: Monday to Sunday).

Set Start of Month

▶ In the "Configuration" pane, click "Statistics times - Month begin".
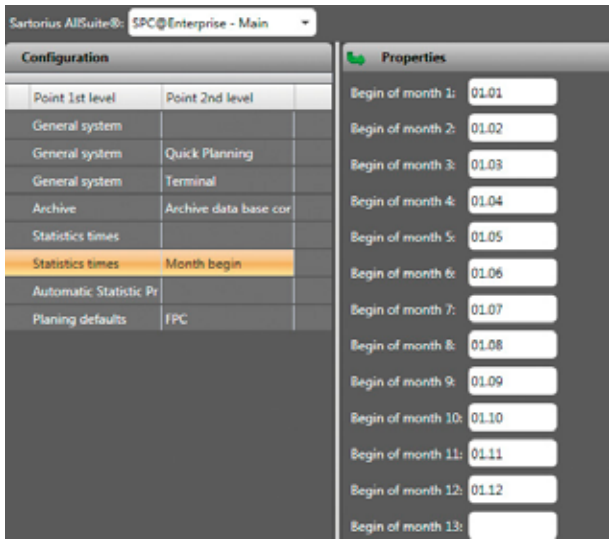
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Month begin 1 to 14	▶ Specify the respective day of the month from which you want the month to be counted (possible date format: DD.MM).

Configuring the Automatic Statistics Printout

Perform General Settings

Via the "Automatic Statistics Printout" list item, specify the general conditions for statistics printouts.

▶ In the "Configuration" pane, click "Automatic Statistics Printout".
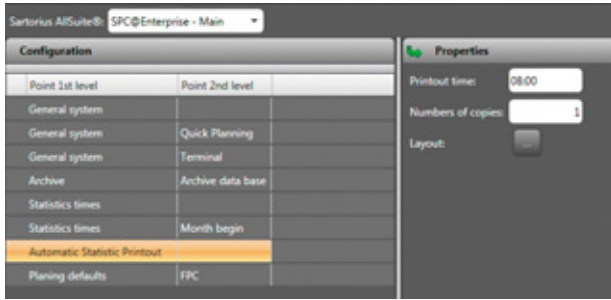
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Printout time	▶ Enter the time at which you want automatic printouts to take place (possible time format: HH:MM).
Number of copies	▶ Enter the desired number of copies for statistics printouts.

Name of data field	Input
Layout	▶ Click ▦ to set the layout for the statistics printout. ▷ The "Automatics Statistics: Layout" window opens:
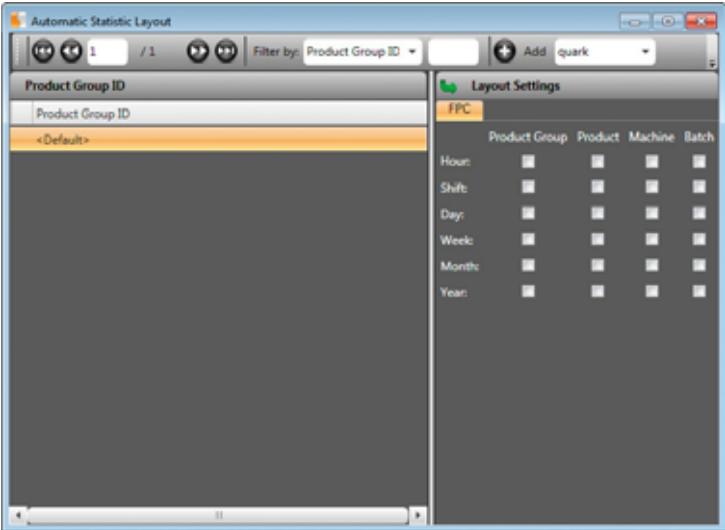
To specify the grouping/cumulation for the automatic statistics print-out (for hourly statistics (Hour), shift statistics (Shift), daily statistics (Day), weekly statistics (Week), monthly statistics (Month) and yearly statistics (Year):

▶ Enable the group/cumulation of your choice:

– Product group
– Product
– Filling machine (Machine)
– Batch

▷ The settings are used for the automatic statistics printouts.

Configuring Planning Defaults

Select Statistics Interval

You specify the type of automatic statistics printout via the "Planning defaults" list item.

⚠ Note the statutory provisions for statistical evidence applicable to your production.

▶ In the "Configuration" pane, click "Planning defaults – FPC".
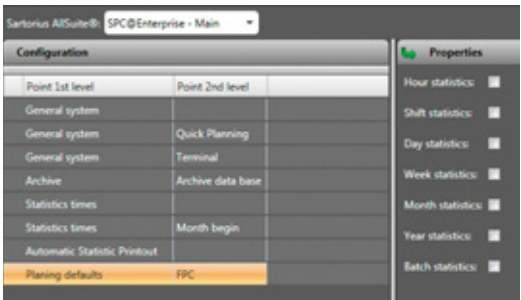
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Hour statistics	If you want to create hourly statistics: ▶ Enable this function.
Shift statistics	If you want to create shift-related statistics: ▶ Enable this function.
Day statistics	If you want to create daily statistics: ▶ Enable this function.
Week statistics	If you want to create weekly statistics: ▶ Enable this function.
Month statistics	If you want to create monthly statistics: ▶ Enable this function.
Year statistics	If you want to create yearly statistics: ▶ Enable this function.

Configuring "SPC@Enterprise Evaluation"
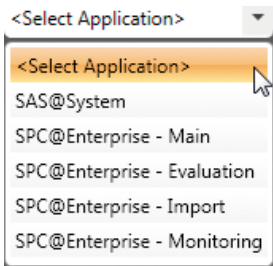
▶ From the "Sartorius AllSuite®" drop-down list, select the module "SPC@Enterprise - Evaluation".

▷ The "Configuration" and "Properties" panes are displayed.

Via the module "SPC@Enterprise - Evaluation", you specify the settings relating to the evaluation of the logged samples and statistics. These settings serve the application "SPC@Enterprise". Configuration comprises two levels:

– **Samples**

Here you specify the settings for the evaluation of samples.

– **Statistics**

Here you specify the settings for the evaluation of statistics.

Configuring Samples
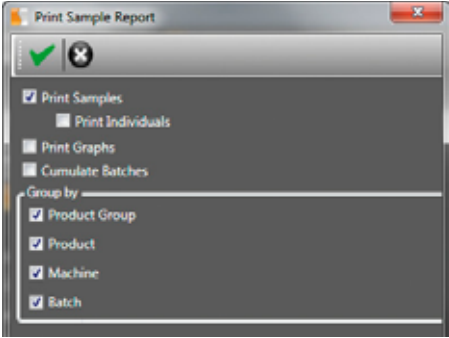
Perform General Settings

Via the "Samples" list item, you specify the general conditions for the evaluation of samples.

▶ In the "Configuration" pane, click "Samples".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Default configuration	
Default time span in days	▶ Enter the number of days for the default time span (possible inputs: 1 to 31).
Get data on start up	If you want to automatically load the data for the default time span and default filter on starting up the application: ▶ Enable this function.

Name of data field	Input
Default report settings	To specify the default settings for printing default reports: ▶ Click ▣ to open the default settings for printing default reports. ▷ The "Print Sample Report" window opens.

Print Samples	If you want each individual sample to be printed in the report: ▶ Enable this function.
Print Individuals	If you want to print the individual values for the samples: ▶ Enable this function.
Print Graphs	If you want to print the graphs for the samples: ▶ Enable this function.
Cumulate Batches	If you want to print a view of the cumulated data of a batch: ▶ Enable this function.

Group by
▶ Select a category by which you want to group the default report:

Product Group	▶ Enable this function.
Product	▶ Enable this function.
Machine	▶ Enable this function.
Batch	▶ Enable this function.

▶ Click the ✓ icon to apply the settings and close the window.

Name of data field	Input
Filter settings	
Filters	To delete a filter: ► Click ▦. ▷ The "Filters" window opens. ► Select an available filter. ► Click [Delete]. ► Click the ▦ icon to save the settings and close the window.
Views settings	
Views	To delete a view: ► Click ▦. ▷ The "Views" window opens. ► Select an available view. ► Click [Delete]. ► Click the ▦ icon to save the settings and close the window.
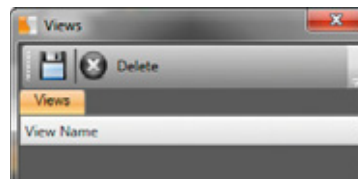
Configure Sample Charts

► In the "Configuration" pane, click "Samples – Charts".

► Enter the following data in the "Properties" pane:

Name of data field	Input
Separate data for different products	If you do not want to cumulatively show samples of different products on a single chart: ► Enable this function.
Separate data for different machines	If you do not want to cumulatively show samples of different filling machines on a single chart: ► Enable this function.

Name of data field	Input
Separate data for different batches	If you do not want to cumulatively show samples of different batches on a single chart: ▶ Enable this function.
Chart Y axis scaling	To adjust the scaling of the y-axis on individual charts: ▶ From the drop-down list, select a default for the scaling of the y-axis: – "Automatic (in relation to min./max. value)" Or select a defined value: – "+/- percentage from outer limits" – "Nominal +/- value" – "Nominal +/- percent" – "+/- percentage from inner limits"
Value	If you want to use a defined value for the scaling of the y-axis: ▶ Enter a value.

Configure Combined Chart

▶ In the "Configuration" pane, click "Samples - Charts - Combined Chart".
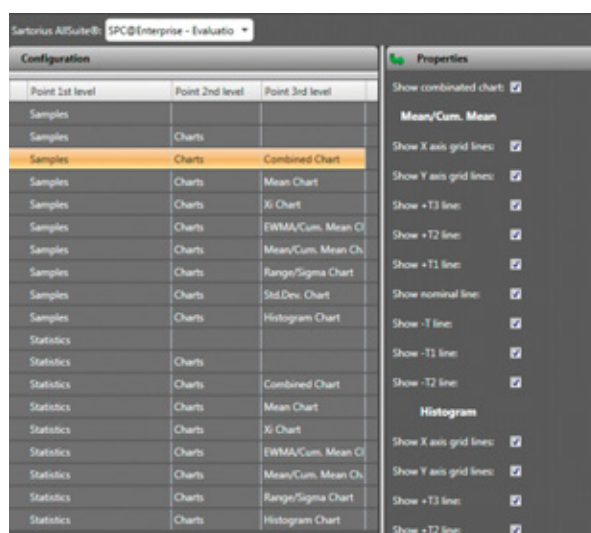
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show combined chart	If you want to show a combined display of the mean/cumulated mean, histogram and range/sigma chart: ▶ Enable this function.

Mean/cum. mean, histogram and range/sigma
▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Mean Value Chart   ► In the "Configuration" pane, click "Samples – Charts – Mean Chart".
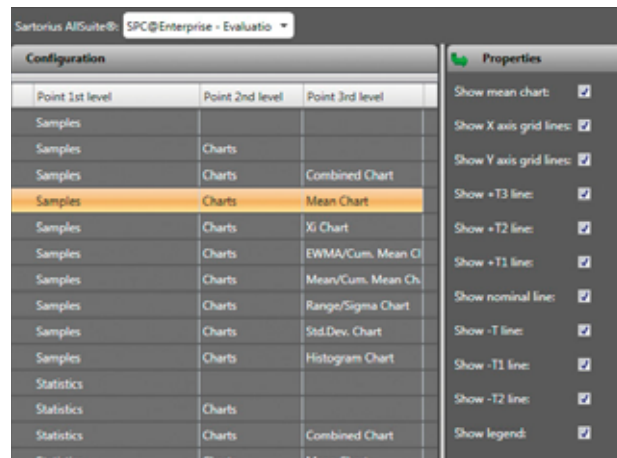
► Enter the following data in the "Properties" pane:

Name of data field	Input
Show mean chart	If you want to display a mean chart: ► Enable this function.

► You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Individual Chart   ► In the "Configuration" pane, click "Samples – Charts – Xi Chart".

► Enter the following data in the "Properties" pane:

Name of data field	Input
Show individuals (Xi) chart	If you want to show a chart of individual values: ► Enable this function.

► You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure EWMA / Cumulated Mean Value Chart

▶ In the "Configuration" pane, click "Samples – Charts – EWMA/Cum. Mean".
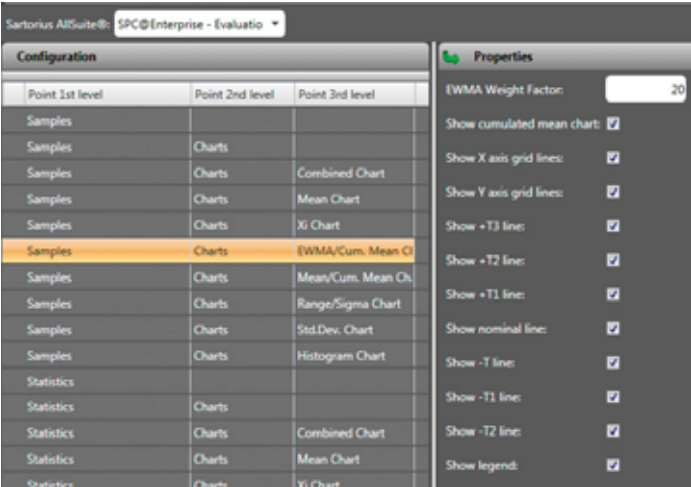
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
EWMA Weight Factor	▶ Specify the EWMA weight factor. Possible settings: 0% (lowest weight) to 100% (highest weight) Recommended setting: 20% to 30% For details of the EWMA weight factor see "EWMA" on page 212.
Show cum. mean chart	If you want to display a chart of the cumulated mean values: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Mean Value / Cumulated Mean Value Chart

▶ In the "Configuration" pane, click "Samples – Charts – Mean/Cum. Mean Chart".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show mean/cum. mean chart	If you want to display a chart of the mean/cumulated mean values: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Range/ Configure Sigma Chart

▶ In the "Configuration" pane, click "Samples – Charts – Range/Sigma".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show range/sigma chart	If you want to display a range/sigma chart: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Standard Deviation Chart ▶ In the "Configuration" pane, click "Samples – Charts – Std.Dev. Chart".
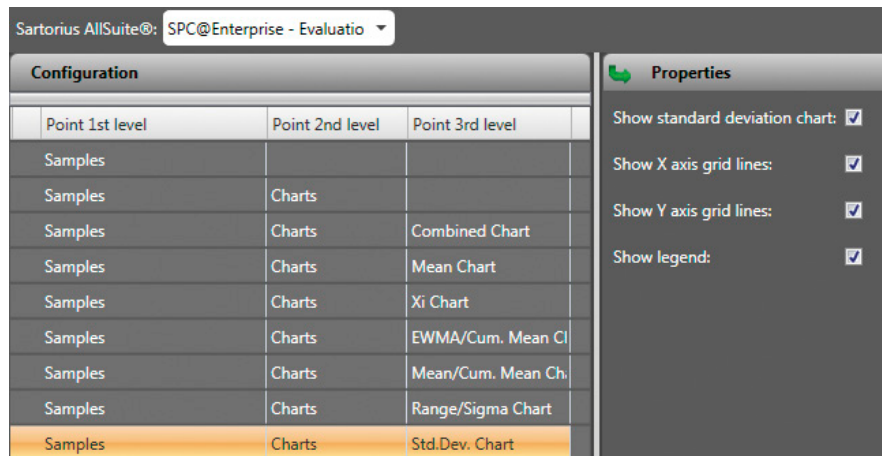
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show standard deviations	If you want to display a standard deviation chart: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Histogram ▶ In the "Configuration" pane, click "Samples – Charts – Histogram Chart".
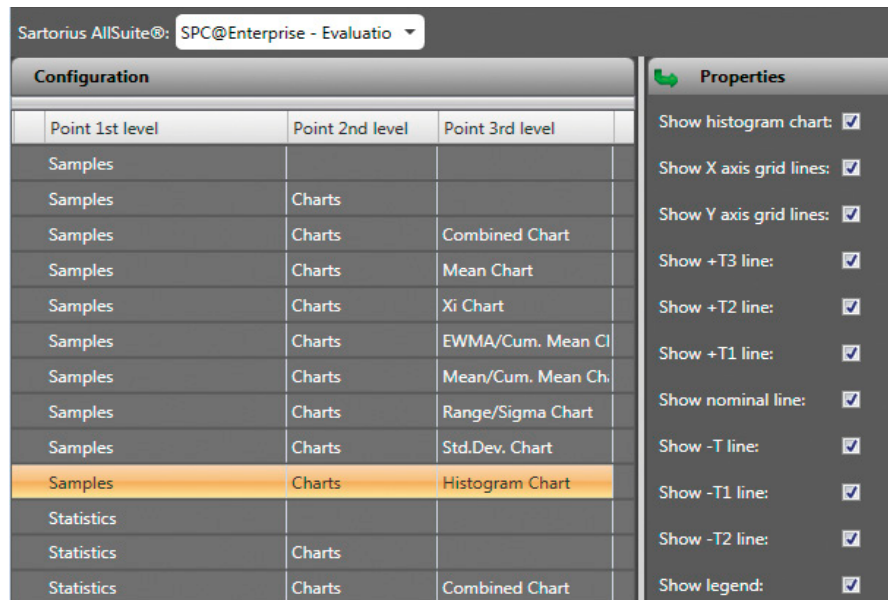
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show histogram chart	If you want to display a histogram: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configuring Statistics

Perform General Settings
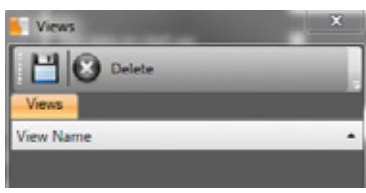
▶ In the "Configuration" pane, click "Statistics".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Default configuration	
Default time span in days	Enter the default number of days that are selected for the default time span (possible inputs: 1 to 31).
Get data on start up	If you want to automatically load the data for the default time span on starting up the application: ▶ Enable this function.

Name of data field	Input
Default report settings	To specify the default settings for printing default reports: ▶ Click ▦ to open the default report settings. ▷ The "Print Statistics" window opens.

Product Group	If you want each individual product group to be printed in the report: ▶ Enable this function.
Product	If you want to print reports for individual products: ▶ Enable this function.
Machine	If you want to print reports for filling machines: ▶ Enable this function.
Batch	If you want to print reports for batches: ▶ Enable this function.

	▶ Click [OK] to save the settings and close the window.
Default statistics type	▶ Select a statistics type from the drop-down list (possible selections: Shift, Hour, Day, Week, Month, Year and Batch Statistics)
Filter setting	
Filters	To delete a filter: ▶ Click ▦. ▷ The "Filters" window opens.

▶ Select an available filter.
▶ Click [Delete].
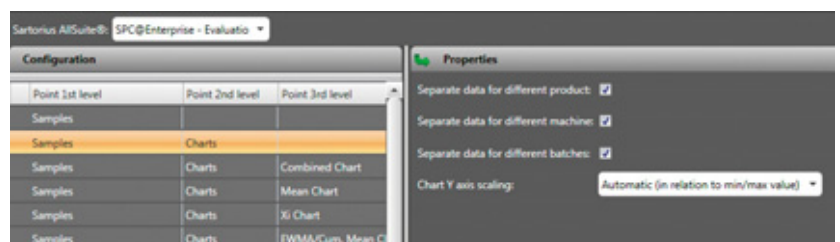▶ Click the 💾 icon to save the settings and close the window.

Name of data field	Input
Views settings	
Views	To delete a view: ► Click ▭. ▷ The "Views" window opens: ► Select an available view. ► Click [Delete]. ► Click the 🖫 icon to save the settings and close the window.

Configure Statistics Charts

► In the "Configuration" pane, click "Statistics - Charts".

► Enter the following data in the "Properties" pane:

Name of data field	Input
Separate data for different products	If you do not want to cumulatively show samples of different products on a single chart: ► Enable this function.
Separate data for different machines	If you do not want to cumulatively show samples of different filling machines on a single chart: ► Enable this function.
Separate data for different batches	If you do not want to cumulatively show samples of different batches on a single chart: ► Enable this function.

Name of data field	Input
Chart Y axis scaling	To adjust the scaling of the Y axis on individual charts: ► From the drop-down list, select a default for the scaling of the Y axis: – "Automatic relating to Min/Max value" or a defined value (see next line): – "+/- percentage from outer limits" – "Nominal value +/-" – "Nominal value +/- (percent)" – "+/- percentage from inner limits"
Value	If you want to use a defined value for scaling the Y axis: ► Enter a value.

Configure Combined Chart

► In the "Configuration" pane, click "Statistics - Charts - Combined Chart".

► Enter the following data in the "Properties" pane:

Name of data field	Input
Show combined chart	If you want to show a combined display of the mean/cumulated mean and range/sigma charts: ► Enable this function.

Mean/cum. mean and range/sigma
► You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Mean Value Chart   ▶ In the "Configuration" pane, click "Statistics – Charts – Mean Chart".

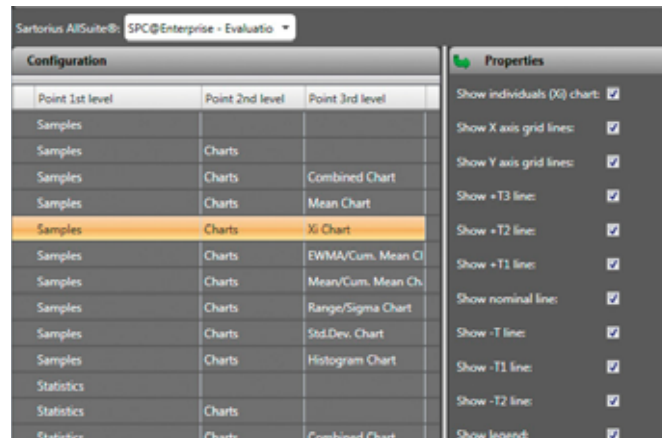▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show mean chart	If you want to display a mean chart: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Individual Chart   ▶ In the "Configuration" pane, click "Statistics – Charts – Xi Chart".
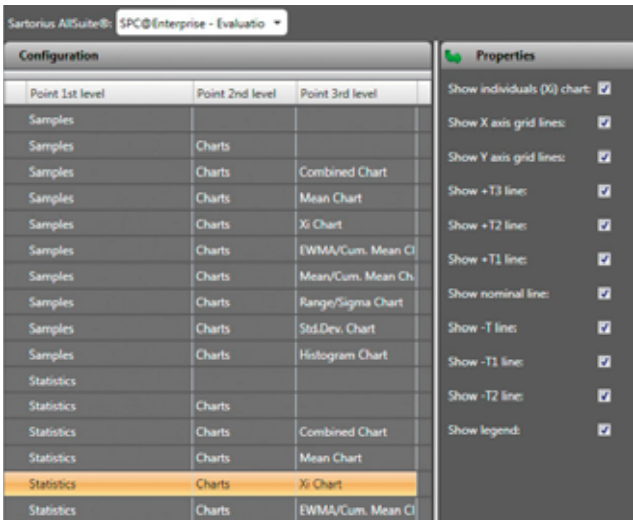
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show individual (Xi) chart	If you want to show an individual chart: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure EWMA / Cumulated Mean Value Chart

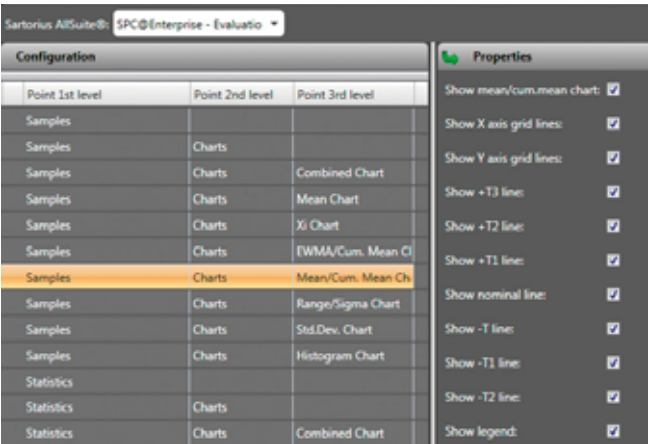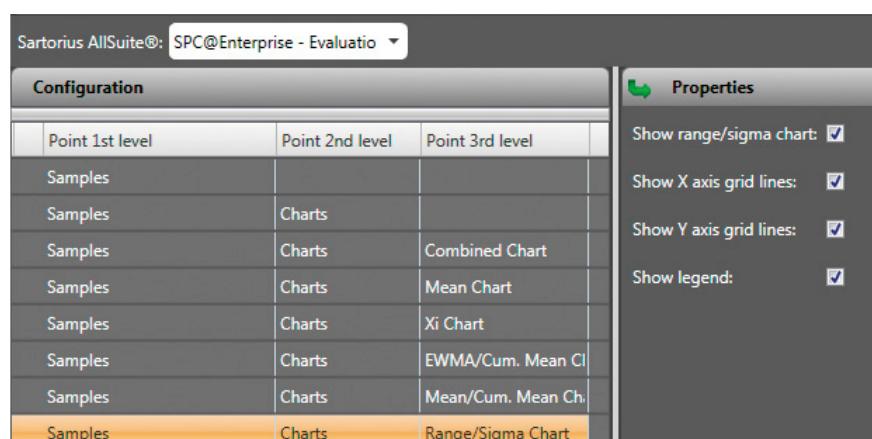▶ In the "Configuration" pane, click "Statistics - Charts - EWMA/Cum. Mean Chart".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show cum. mean value	If you want to display a chart of the cumulated mean value: ▶ Enable this function.
EWMA Weight Factor	▶ Specify the EWMA weight factor. Possible settings: 0% (lowest weight) to 100% (highest weight) Recommended setting: 20% to 30% For details of the EWMA weight factor see "EWMA" on page 212.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Mean Value / Cumulated Mean Value Chart

▶ In the "Configuration" pane, click "Statistics – Charts – Mean/Cum. Mean Chart".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show mean/cum. mean chart	If you want to display a chart of the mean / cumulated mean values: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Range/Sigma Chart

▶ In the "Configuration" pane, click "Statistics – Charts – Range/Sigma Chart".
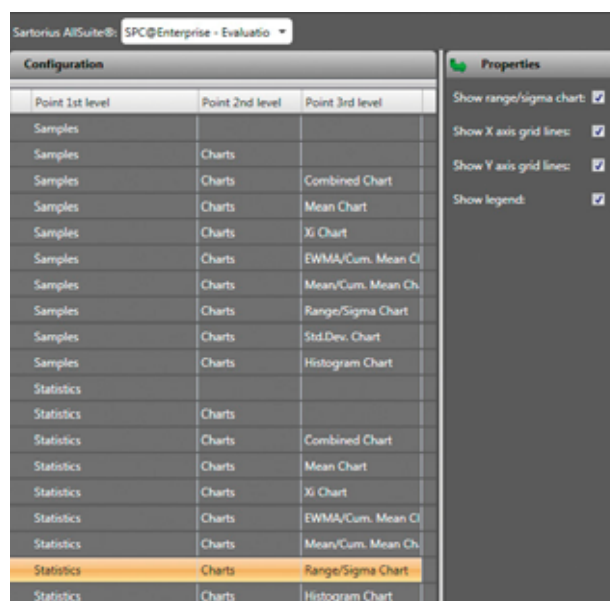
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show range/sigma chart	If you want to display a range/sigma chart: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Configure Histogram

▶ In the "Configuration" pane, click "Statistics – Charts – Histogram Chart".
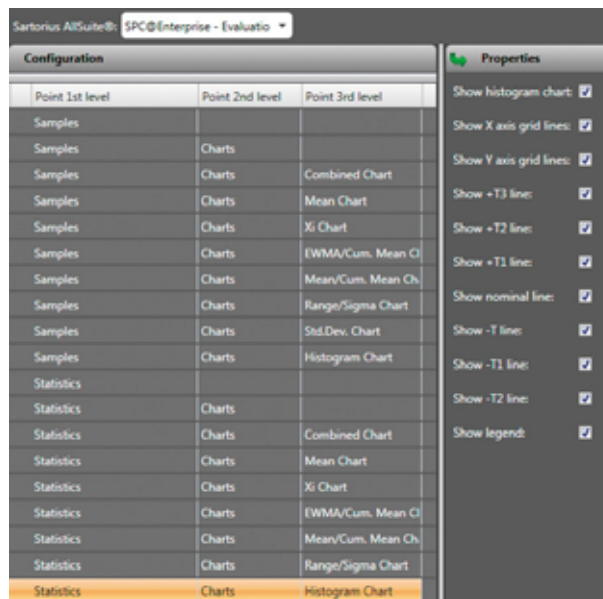
▶ Enter the following data in the "Properties" pane:

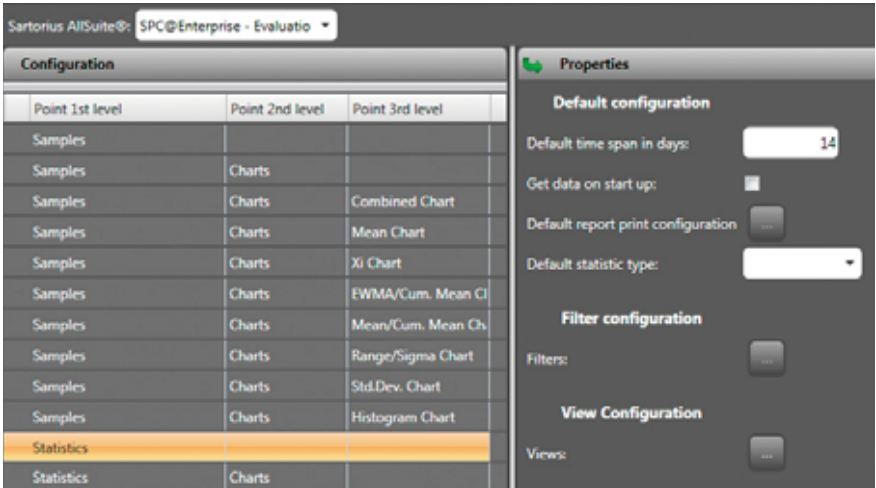| Name of data field	Input
Show histogram chart	If you want to display a histogram: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 72.

Customizing Charts
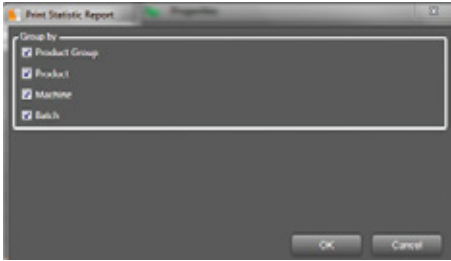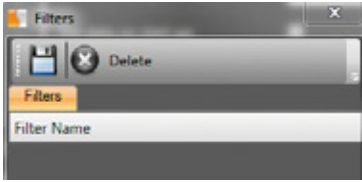
The settings shown in the table can be customized for the following chart types:
– Mean value (mean)
– Individual value (Xi)
– EWMA/cumulated mean value (EWMA/Cum. Mean)
– Mean value / cumulated mean value (Mean/Cum. Mean)
– Standard deviations (Std. Dev.)
– Range/sigma
– Histogram

Name of data field	Input
Show X axis grid lines	If you want to display the X axis grid lines: ▶ Enable this function.
Show Y axis grid lines	If you want to display the Y axis grid lines: ▶ Enable this function.
Show +T3 line	If you want to display upper tolerance limit 3: ▶ Enable this function.
Show +T2 line	If you want to display upper tolerance limit 2: ▶ Enable this function.
Show +T1 line	If you want to display upper tolerance limit 1: ▶ Enable this function.
Show nominal line	If you want to display the nominal line (default value): ▶ Enable this function.
Show the -T line	If you want to display the lower tolerance limit: ▶ Enable this function.
Show the -T1 line	If you want to display lower tolerance limit 1: ▶ Enable this function.
Show the -T2 line	If you want to display the absolute lower tolerance limit: ▶ Enable this function.
Show legend	If you want to display the chart legend: ▶ Enable this function.

Configuring the Import Function of "SPC@Enterprise"
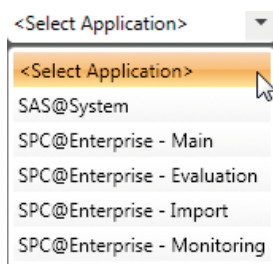
▶ From the "Sartorius AllSuite®" drop-down list select the application "SPC@Enterprise - Import".

▷ The "Configuration" and "Properties" panes are displayed.

Via "SPC@Enterprise - Import", you specify the settings for importing data from an existing system or XML file. Configuration comprises one level:

– Server settings of the update module (**App config)**
  Here you specify the settings for importing data.

If you are using an old system ("Sartorius ProControl for Windows") and want to update to the current version of "Sartorius ProControl@Enterprise":

▶ Contact Sartorius (see "Contact" on page 209) to find out how you can update your old system (keeping the existing settings).

Configuring "App config"

Select LDAP Server

To select an existing Microsoft SQL Server 2005/2008 for the import application:
► In the "Configuration" pane, click "App config – Database".
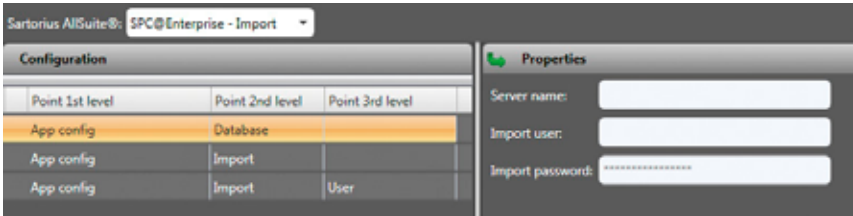
► Enter the following data in the "Properties" pane:

Name of data field	Input
Server name	► Enter here the name of the Microsoft SQL Server 2005/2008 on which "SPC@Enterprise" and the terminal application "SPC@Enterprise Sampling" save all data. Please note the input format: "COMPUTERNAME\ SQL-SERVERNAME"
Import user	► Enter here the user name for access to the server.
Import password	► Enter here the password for access to the server.

Perform Import Settings

To select existing data from a "Sartorius ProControl for Windows" system for the import application:
► In the "Configuration" pane, click "App config – Import".

► Enter the following data in the "Properties" pane:

Name of data field	Input
Import path	To select the XML config. file containing data for the import operation: ► Click ▬ to select the path for the XML file. ▷ The "Open file" window is displayed. ► Select the XML file of your choice. Or, if you want to import the data from an old "Sartorius ProControl for Windows" system: ► From the folder structure, select the file "Sartorius.SPCEnterprise. Import.exe.config". ► Click [OK]. ▷ The selected file is imported.
Delete file after import	If, after successfully importing the settings, you want to delete the XML config. file: ► Enable this function.
Overwrite existing data	If you want to overwrite the existing configuration data by importing a new XML config. file: ► Enable this function.
Import users	If you want to import user accounts contained within the XML config. file: ► Enable this function.
Import products	If you want to import product data contained within the XML config. file: ► Enable this function.
Import machines	If you want to import data from filling machines contained within the XML config. file: ► Enable this function.
Import characteristics	If you want to import test characteristics contained within the XML config. file: ► Enable this function.
Import gauges	If you want to import gauges contained within the XML config. file: ► Enable this function.
Import inspections	If you want to import inspection plans contained within the XML config. file: ► Enable this function.

Perform Advanced User Account Settings

► In the "Configuration" pane, click "App config – Import - User".
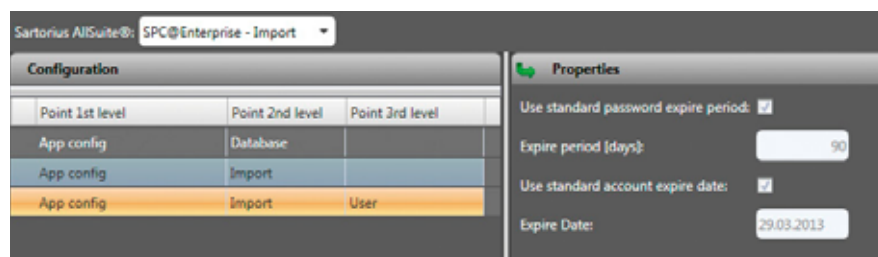
► Enter the following data in the "Properties" pane:

Name of data field	Input
Use standard password expire period	If passwords expire after a certain period and have to be renewed: ► Enable this function.
Expire period [days]	► Enter the time span in days after which new passwords have to be created.
Use standard account expire date	If user accounts are to expire after a certain time: ► Enable this function.
Expire Date	► Enter the expire date after which user accounts have to be re-created (possible date format: DD.MM.YYYY).
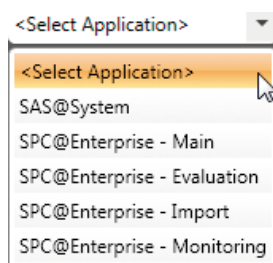
Configuring "SPC@Enterprise Monitoring"

► From the "Sartorius AllSuite®" drop-down list select the application "SPC@Enterprise - Monitoring".
▷ The "Configuration" and "Properties" panes are displayed.

Via "SPC@Enterprise - Monitoring", you specify the individual settings for monitoring production using the application "SPC@Enterprise". Configuration comprises three levels:
– General settings (**General**)
  Here you specify which values are displayed and at what time intervals.
– Monitoring module display (**Monitor**)
  Here you specify the settings for displaying the values.
– **Dynamic Sample Display**
  Here you specify the settings for the dynamic sample display.

Performing the General Settings

Configure Time Interval ► In the "Configuration" pane, click "General - Range".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Period Type	▶ From the drop-down list, select a time interval in which the current values are displayed in the monitoring module. The time intervals "Floating Time in Minutes" and "Floating Time in Hours" result in periods that are automatically updated on a continuous basis. The "Current Shift", "Current Day" and "Unlimited" periods are static.
Floating Time in Minutes / Hours	If you selected the "Floating Time in Minutes" entry as the "Period Type": ▶ Enter the duration of a period in minutes. If you selected the "Floating Time in Hours" entry as the "Period Type": ▶ Enter the duration of a period in hours.
Number of samples	▶ Enter the number of samples that are to be summarized in a chart (0 = unlimited number of samples).

Configuring the Production Monitoring Display

Perform General Settings

▶ In the "Configuration" pane, click "Monitor – Base Config".
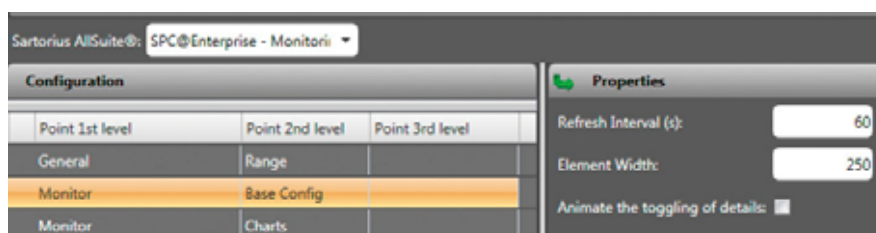
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Refresh Interval	▶ Enter a refresh interval in seconds for production monitoring (Monitor) (possible entries: from 15 seconds).
Element Width	▶ In the "Element Width" pane, enter the width of the charts in pixels (possible inputs: from 250 pixels).
Animate the toggling of details	If you want to animate the toggling of chart details: ▶ Enable this function.

Configure Charts ▶ In the "Configuration" pane, click "Monitor - Charts".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Chart Y axis scaling	To adjust the scaling of the Y axis on individual charts: ▶ From the drop-down list, select a default for the scaling of the Y axis: – "Automatic relating to Min/Max value" Or select a defined value: – "+/- percentage from outer limits" – "Nominal value +/-" – "Nominal value +/- (percent)" – "+/- percentage from inner limits"
Value	If you want to use a defined value for the scaling of the Y axis: ▶ Enter a value.

Configure Cumulated Mean Value Chart ▶ In the "Configuration" pane, click "Monitor - Charts - Cum. Mean Chart".
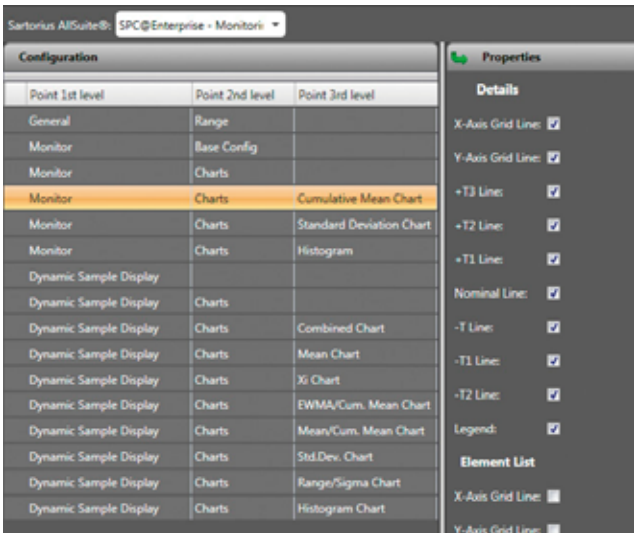
▶ Enter the following data in the "Properties" pane:

Name of the data field

Details

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Element List

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Configure Standard Deviation Chart ▶ In the "Configuration" pane, click "Monitor – Charts – Standard Deviation Chart".
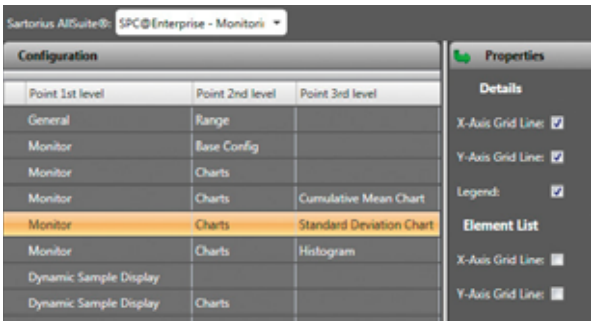
▶ Enter the following data in the "Properties" pane:

Name of data field

Details

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Element List

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Configure Histogram ▶ In the "Configuration" pane, click "Monitor – Charts – Histogram".
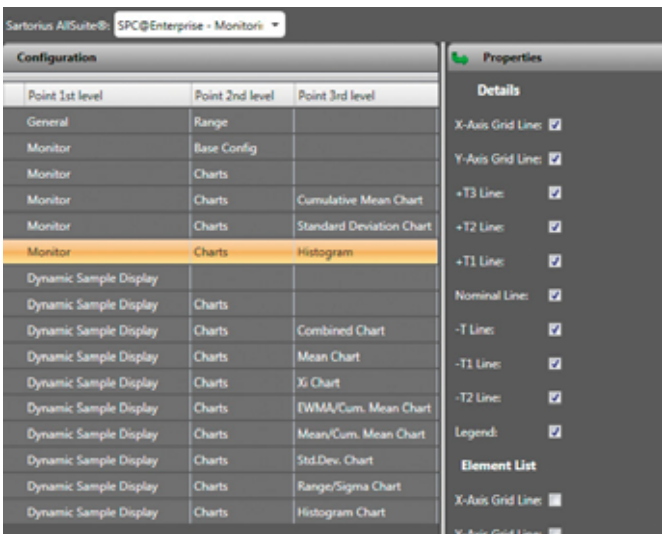
▶ Enter the following data in the "Properties" pane:

Name of data field

Details

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Element List

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Configuring the Dynamic Sample Display

Perform General Settings

Via the "Dynamic Sample Display" list item, you specify the general conditions for the dynamic sample display.

▶ In the "Configuration" pane, click "Dynamic Sample Display".
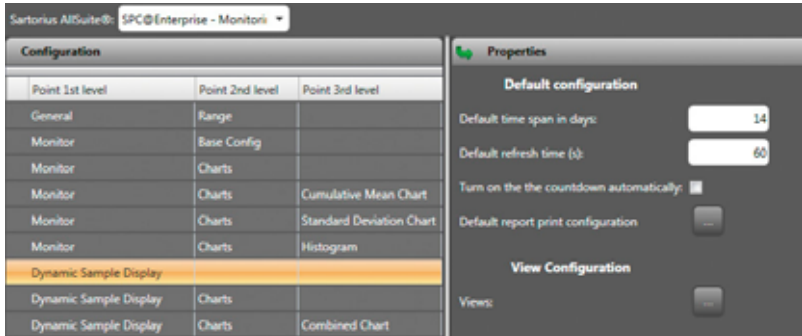
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Default configuration	
Default time span in days	▶ Enter the time span in days for which the data for the sample display are to be loaded (possible input: from 1 day).
Default refresh time	▶ Enter the period in seconds (countdown) for the automatic refresh of the sample data (possible input: from 1 second).
Turn on the countdown automatically	If you want to enable the automatic refresh at the end of the countdown: ▶ Enable this function.
Countdown in seconds	If you enabled "Turn on the countdown automatically": ▶ Enter the pause time in seconds (possible input: 1 to 300 seconds).

Name of data field	Input
Default report settings	To specify the default settings for printing default reports: ▶ Click ▬ to open the default report settings. ▷ The "Print Statistics" window opens.

Product Group	If you want to print reports for product groups: ▶ Enable this function.
Product	If you want to print reports for individual products: ▶ Enable this function.
Machine	If you want to print reports for filling machines: ▶ Enable this function.
Batch	If you want to print reports for batches: ▶ Enable this function.

	▶ Click [OK] to apply the settings and close the window.
Views settings	
Views	To delete a view: ▶ Click ▬. ▷ The "Views" window opens:

	▶ Select an available view. ▶ Click [Delete]. ▶ Click the 🖫 icon to save the settings and close the window.

Configure Charts   ▶ In the "Configuration" pane, click "Dynamic Sample Display - Charts".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Separate data for different products	If you do not want to show samples of different products as a cumulated view on a chart: ▶ Enable this function.
Separate data for different machines	If you do not want to show samples of different filling machines as a cumulated view on a chart: ▶ Enable this function.
Separate data for different batches	If you do not want to show samples of different batches as a cumulated view on a chart: ▶ Enable this function.
Chart Y axis scaling	To adjust the scaling of the Y axis on individual charts: ▶ From the drop-down list, select a default for scaling the Y axis: – "Automatic relating to Min/Max value" or a defined value (see next line): – "+/- percentage from outer limits" – "Nominal value +/-" – "Nominal value +/- (percent)" – "+/- percentage from inner limits"
Value	If you want to use a defined value for scaling the Y axis: ▶ Enter a value.

Configure Combined Charts   ▶ In the "Configuration" pane, click "Dynamic Sample Display – Charts – Combined Chart".
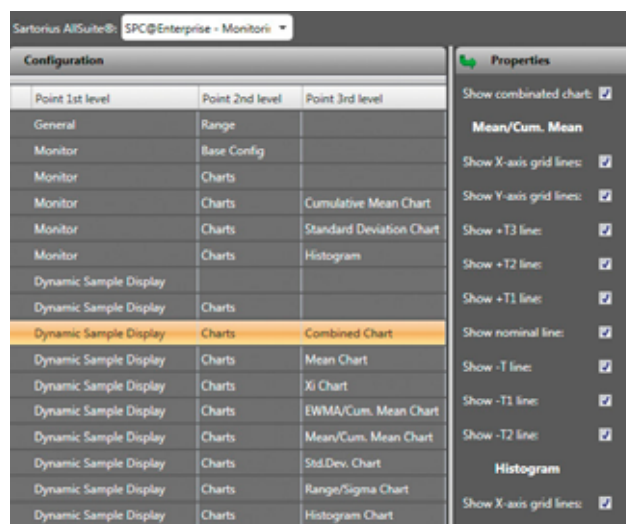
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show combined chart	If you want to show a combined display of the mean value/cumulated mean value, histogram and range/sigma charts: ▶ Enable this function.

Mean/cum. mean, histogram and range/sigma
▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Configure Mean Value Chart   ▶ In the "Configuration" pane, click "Dynamic Sample Display – Charts – Mean Chart".
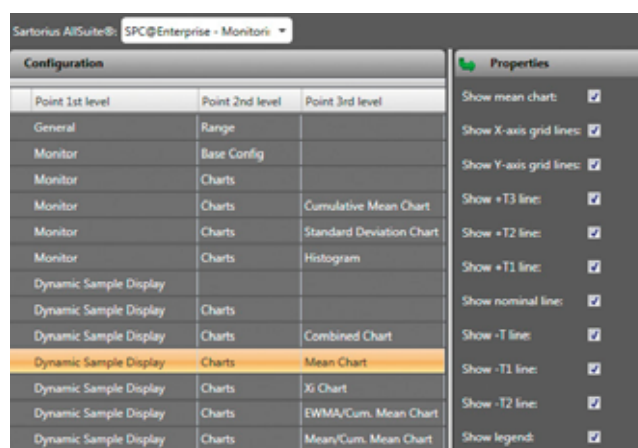
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show mean chart	If you want to display a mean chart: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Configure Individual Chart

▶ In the "Configuration" pane, click "Dynamic Sample Display - Charts - Xi Chart".
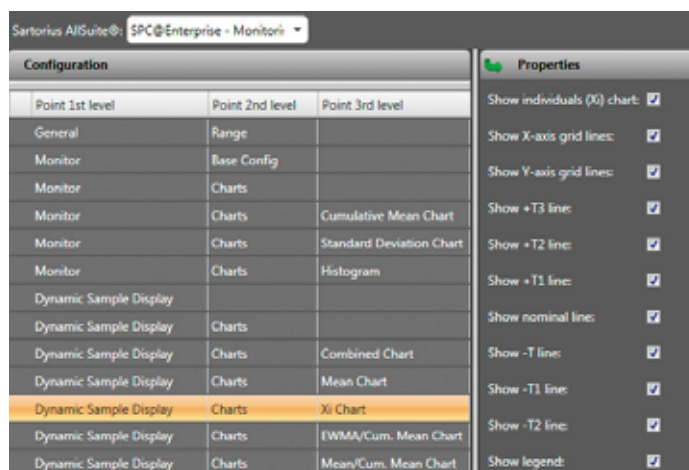
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show individual (Xi) chart	If you want to show an individual chart: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Configure EWMA / Cumulated Mean Value Chart

▶ In the "Configuration" pane, click "Dynamic Sample Display - Charts - EWMA/ Cum. Mean Chart".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show cum. mean value	If you want to display a chart of the cumulated mean value: ▶ Enable this function.
EWMA Weight Factor	▶ Specify the EWMA weight factor Possible settings: 0% (lowest weight) to 100% (highest weight) Recommended setting: 20% to 30% For details of the EWMA weight factor see "EWMA" on page 212.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Configure Mean Value / Cumulated Mean Value Chart

▶ In the "Configuration" pane, click "Dynamic Sample Display – Charts – Mean/ Cum. Mean".

▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show mean/cum. mean chart	If you want to display a chart of the mean/cumulated mean values: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Configure Standard Deviation Chart

▶ In the "Configuration" pane, click "Dynamic Sample Display – Charts – Std.Dev. Chart".
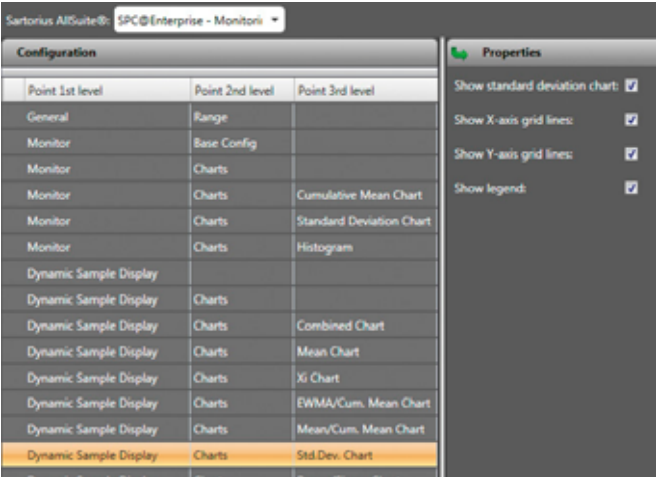
▶ Enter the following data in the "Properties" pane:

Name of data field	Input
Show standard deviations	If you want to display a standard deviation chart: ▶ Enable this function.

▶ You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Range/Sigma Chart

▶ In the "Configuration" pane, click "Dynamic Sample Display – Charts – Range/ Sigma Chart".

► Enter the following data in the "Properties" pane:

Name of data field	Input
Show range/sigma chart	If you want to display a range/sigma chart: ► Enable this function.

► You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Configure Histogram

► In the "Configuration" pane, click "Dynamic Sample Display - Charts - Histogram Chart".
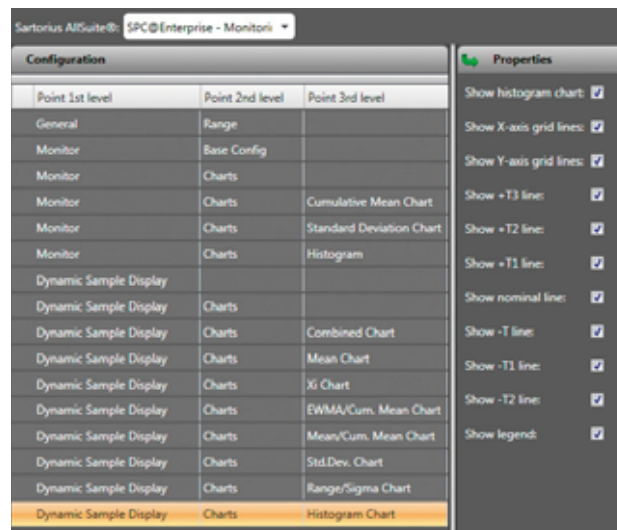
► Enter the following data in the "Properties" pane:

Name of data field	Input
Show histogram chart	If you want to display a histogram: ► Enable this function.

► You can find instructions on further setting options in the chapter "Customizing Charts" on page 87.

Customizing Charts

The settings shown in the table can be customized for the following chart types:
- Mean value (mean)
- Individual value (Xi)
- EWMA / cumulated mean value (EWMA/Cum. Mean)
- Mean value / cumulated mean value (Mean/Cum. Mean)
- Standard deviations (Std.Dev.)
- Range/Sigma
- Histogram

Name of data field	Input
Show X axis grid lines	If you want to display the X axis grid lines: ▶ Enable this function.
Show Y axis grid lines	If you want to display the Y axis grid lines: ▶ Enable this function.
Show the +T3 line	If you want to display upper tolerance limit 3: ▶ Enable this function.
Show the +T2 line	If you want to display upper tolerance limit 2: ▶ Enable this function.
Show the +T1 line	If you want to display upper tolerance limit 1: ▶ Enable this function.
Show the nominal line	If you want to display the nominal line (default value): ▶ Enable this function.
Show the -T line	If you want to display the lower tolerance limit: ▶ Enable this function.
Show the -T1 line	If you want to display lower tolerance limit 1: ▶ Enable this function.
Show the -T2 line	If you want to display the absolute lower tolerance limit: ▶ Enable this function.
Show the legend	If you want to display the chart legend: ▶ Enable this function.

Inserting Electronic Signatures – Audit Trail

QM Personnel
QM personnel work with the "Audit Trail" module. In order to be able to use the "Audit Trail" module as QM personnel you require the corresponding access rights.

With the functions in the "Audit Trail" module you can configure, manage and display electronic signatures and audit trails. Electronic signatures and audit trails are required for certification audits, for example.

> The "Audit Trail" module is optional. You can use electronic signatures and audit trails for all modules and application functions; alternatively you can use them only in part, or not at all.

Electronic signatures are used for user authentication. By this means, you can document who entered, modified or deleted data in the database.
The "Electronic Signature" window shown alongside opens whenever a user clicks the 🖫 icon in the quick access toolbar to save changes. In this window, the user is required to enter the user name, password and the reason for the change.
The reason for the change must consist of at least 10 characters. The "Audit Trail" module then automatically saves the change made by this user.

Audit trails are lists that show what changes were made to the data and which users made those changes. The "Audit Trail" module provides two types of audit trail:
– "Audit Trail Data" audit trail
  Shows which data were changed and when
– "Electronic Signature Audit" audit trail
  Shows when changes were made and by which user as well as the reason given for the change

Starting an Audit Trail

Before you can create audit trails, you must first enable and configure the recording of electronic signatures. To do this, use the "Audit Trail" tab.
▶ In the application menu, click "Sartorius AllSuite® Management".
▷ Three tabs are displayed: "User Management", "Configuration" and "Audit Trail".
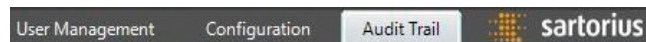
▶ Click the "Audit Trail" tab.

▷ The "Module Settings" and "Viewer" menu icon groups are displayed.
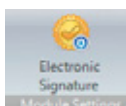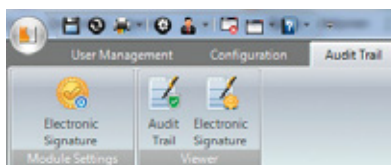
The "Module Settings" menu icon group is used to enable and configure the recording of electronic signatures (see "Enabling and Configuring the Audit Trail" on page 91).
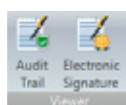
The "Viewer" menu icon group is used to view audit trails (see "Showing Audit Trails" on page 93).

Tips on Filtering Lists and Data Fields in the "Audit Trail" Module

If you make a lot of changes, all of which have to be confirmed by an electronic signature, you quickly obtain comprehensive audit trails. To find specific records within those audit trails, with the aid of the drop-down list in the "Selection filter" pane you can filter the audit trails by the following properties:

Filter by application
► Select the application ("SPC@Enterprise" or "SPC@Management") which was used to make the change you are searching for.
This selection is compulsory. No changes are displayed unless you select an application .
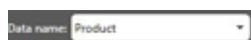
Filter by field name
► Select the name of the data field in which the change you are searching for was entered.
This selection is compulsory. No changes are displayed unless you select a data field name.
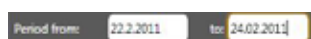
Filter by period
► In the "Period from" field, enter the date on which the first changes you are searching for were made.
► In the "to" field, enter the date on which the last changes you are searching for were made.
This selection is compulsory. All changes are displayed unless you select a period. You can also fill out only one of the two fields.

Enabling and Configuring the Audit Trail

ℹ️ To enable and configure electronic signatures and audit trails, you need to have access rights from your administrator to the "Manage Audit Settings and Electronic Signatures" function.
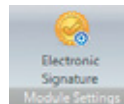
▶ In the "Module Settings" menu icon group, click "Electronic Signature".
▷ The "Audit/Electronic Signature Settings" window opens.
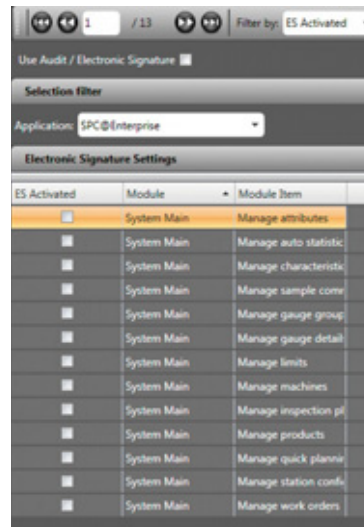
Enabling or disabling Electronic Signatures

To enable electronic signatures:
▶ Activate the "Use Audit/Electronic Signature" check box.
▷ The "Electronic Signature" window shown alongside opens whenever a user clicks the 🖫 icon in the quick access toolbar to save changes. In this window, the user is required to enter the user name, password and the reason for the change. The reason for the change must consist of at least 10 characters. The "Audit Trail" module then automatically saves the change made by this user. You can create audit trails from this stored data.
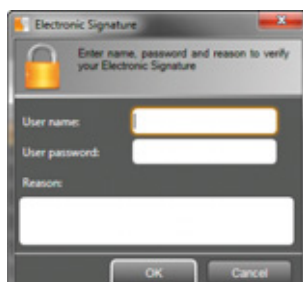
To disable electronic signatures:
▶ Deactivate the "Use Audit/Electronic Signature" check box.
▶
▷ The dialog box shown alongside opens. This points out that it is neither possible nor appropriate to turn off the functions of the "Audit Trail" module and then turn them back on again.
▶ If you are sure that you want to turn off all functions of the Audit Trail module, and that you will never want to turn them back on again, click [Yes].
▷ All stored electronic signatures and audit trails will be deleted from the database. All users can save changes to the database without entering their user name and password and without giving the reason for the change in the "Electronic Signature" window.
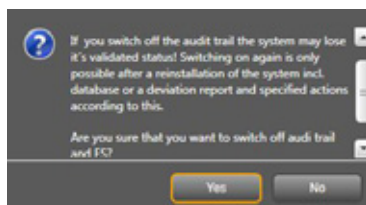
Configuring Electronic Signatures

To specify the changes for which an electronic signature is required:

▶ From the "Application" drop-down list, select the application for which you want to configure the electronic signatures.

▷ All functions of the selected application for which you can use electronic signatures are displayed n the "Electronic Signature Settings" pane.

▶ Activate the check boxes for the functions that you want to include in the audit trails.

Module Item	Function in SPC@Enterprise
Manage auto statistic printout	Change the settings for the auto statistic printout (see "Configuring the Automatic Statistics Printout" on page 54)
Manage characteristics	Enter, modify or delete data relating to the management of product characteristics (see "Entering, Changing or Deleting Product Data" on page 98)
Manage sample comments	Modify suggested comments on inspections (see "Configuring Comments" on page 129)
Manage gauge groups	Add or delete gauges (see "Entering, Changing or Deleting Gauge Data" on page 102)
Manage gauge details	Modify gauge data (see "Entering, Changing or Deleting Gauge Data" on page 102)
Manage limits	Enter, modify or delete definitions or weight classes of tolerance limits (see "Configuring Limits" on page 126)
Manage machines	Enter, modify or delete data relating to the management of machines (see "Entering, Changing or Deleting Filling Machine Data" on page 99)
Manage inspection plans	Enter, modify or delete data relating to the management of inspection plans (see "Configuring Inspection Plans" on page 113)
Manage products	Enter, modify or delete data relating to product management (see "Entering, Changing or Deleting Product Data" on page 98)
Start Quick Planning	Edit data using Quick Planning (see "Configuring Inspection Plans Using "Quick Planning"" on page 106)
Manage station configuration	Enter, modify or delete data relating to tests stations (see "Configuring Test Stations" on page 122)
Manage work orders	Work orders (see "Configuring Work Orders" on page 118)

Module Item	Function in SPC@Management
Manage role functions	Enter, modify or delete user roles ("Configuring Work Orders" on page 118)
Manage users	Enter, modify or delete users (see "Managing User Accounts" on page 29)
Manage roles	Enter, modify or delete permissions (see "Managing Roles" on page 33)

Showing Audit Trails
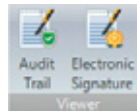
The "Audit Trail" module provides two types of audit trail:
– In the "Audit Trail Data" audit trail, to display the data fields that were changed in the database, and when they were changed, see the next chapter "Showing Audit Trail of Inputs (Audit Trail Data)" on page 93.
– In the "Audit Electronic Signature" audit trail, to display which users made changes to the database, when they made those changes and what reason they gave for making those changes, see "Showing the Audit Trail for Electronic Signatures" on page 94.

Showing Audit Trail of Inputs (Audit Trail Data)

ℹ To display the "Audit Trail Data" audit trail, you need to have access rights from your administrator to the "Viewer for Audit Data" function.
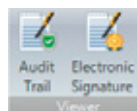
▶ In the "Viewer" menu icon group, click "Audit Trail".
▷ The "Audit Trail Dialog" window opens.
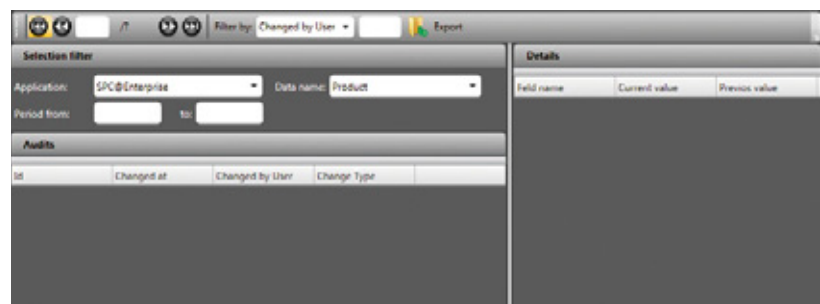
▷ In the "Selection filter" pane, you can filter out the records to be displayed (see "Tips on Filtering Lists and Data Fields in the "Audit Trail" Module" on page 90).
▷ The filtered records are displayed in the "Audits" pane.

Column	Content
Modified on	Date and time of change
Changed by user	User name of the user that made the change
ID	Internal identification number of the record
Change type	Type of change "Added", "Changed" or "Deleted"

▷ The data that were entered, changed or deleted are displayed in the "Details" pane.
If you added data to the database:

Column	Content
Field name	Data field to which data were added
Current value	Data that were added
Previous value	Empty

If you changed data:

Column	Content
Field name	Data field in which data were changed
Current value	Newly entered data
Previous value	Data that were replaced

If you deleted data from the database, all three columns of the "Details" pane remain blank.

Showing the Audit Trail for Electronic Signatures

ℹ️ To display the "Audit Electronic Signature" audit trail, you need to have access rights from your administrator to the "Viewer for Electronic Signature Data" function.
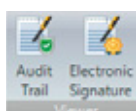
▶ In the "Display" menu icon group, click "Audit Trail".
▷ The "Audit Trail Dialog" window opens.
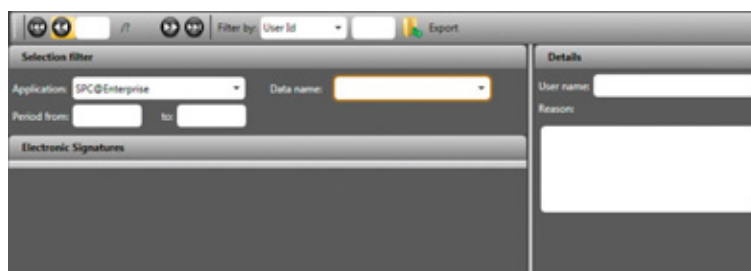
▷ In the "Selection filter" pane, you can filter out the records to be displayed (see "Tips on Filtering Lists and Data Fields in the "Audit Trail" Module" on page 90).
▷ The filtered records are displayed in the "Electronic Signatures" pane.

Column	Content
Created on	Date and time of record
User ID	User name of the user who submitted the electronic signature
Signing ok	Status of the electronic signature "Yes" means that the user name and the reason were entered correctly. The change was saved in the database. "No" means that the user name or the reason were not entered correctly. The change was not saved in the database.

▷ The user name and the reason given by the user for making the change are displayed in the "Details" pane.

Maintaining Base Data and Planning Inspections – Main Module

QM Personnel and Production Personnel
The main module operates with QM personnel and production personnel.
In order to be able to use the main module as QM personnel you need the corresponding access rights.
Production personnel may have read-only access to some menus. Menus for which read access was not granted are not displayed.

⚠️ **ATTENTION!**
Incorrect sampling and evaluation due to incorrect data
All samples and evaluations that you later perform use the base, planning and test station data that you enter in the main module. If you enter incorrect data here, your samples and evaluations will not meet the specified requirements.

▶ Before entering, changing or deleting data in the main module, make sure that you are aware of the applicable legal requirements and standards as well as supplier and company specifications.
▶ Take particular care when entering, changing or deleting data in the main module.

Starting the Main Module

Before you can use the application "SPC@Enterprise" for statistical process control, first you have to enter the data with which the software operates. You use the "SPC@Enterprise - Main" tab to do this.
▶ Click the "Sartorius AllSuite®" icon.
▷ The "Sartorius AllSuite®" application menu is displayed.
▶ In the application menu, click "SPC@Enterprise".
▷ The three tabs, "SPC@Enterprise - Main", "SPC@Enterprise - Monitoring" and "SPC@Enterprise - Evaluation", are displayed.
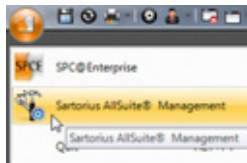
▶ Click the "SPC@Enterprise - Main" tab.
▷ The "Base Data", "Planning" and "System" menu icon groups are displayed.
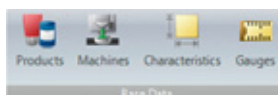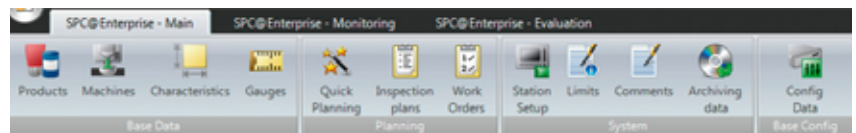
The "Base Data" menu icon group is used to enter data relating to products, machines, characteristics and gauges (see "Entering, Changing or Deleting Base Data" on page 97).
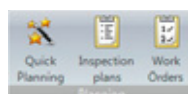
The "Planning" menu icon group is used to plan inspections and to configure inspection plans and work orders (see "Planning Inspections" on page 104).
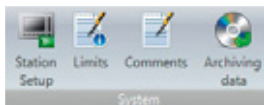
The "System" menu icon group is used to configure the basic settings for the user stations and the network (see "Setting up the Test Environment" on page 122 and "Archiving" on page 206).
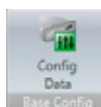
The "Base Config" menu icon group is used to configure the basic settings for the main module (see "Menu Icon Group "Base Config"" on page 96).

Edit the Main Module Windows in the Correct Sequence

If you are setting up the application "SPC@Enterprise" for the first time, proceed in the following order:

▶ Make sure that the main module is correctly configured (see "Configuring the Main Module of "SPC@Enterprise"" on page 47).
▶ First enter the product data (see page 98)
▶ Next enter the machine data (see page 99).
▶ Then enter the gauge data (see page 102).
▶ Next configure the inspection stations (see page 122).

Either:
▶ Use "Quick Planning" to configure inspection plans (optional, see page 106).

Or:
▶ Configure the inspection plans without "Quick Planning" (see page 113).
▶ Next configure the work orders (see page 118).
▶ After this, enter the characteristics data (see page 101).
▶ You can change tolerance limits and weight classes (see page 126).
▶ Finally, you can preconfigure "Comments" (optional, see page 129).

Menu Icon Group "Base Config"

To use the "Base Config" menu icon group, you need to have access rights from your administrator to the functions of "Manage System Main Configuration".
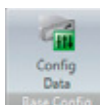
Via the "Base Config" menu icon group, you can specify the default settings for the main module.

Configuring the Main Module

To view the settings for the main module or change the existing configuration:
▶ In the "Base Config" menu icon group, click [Config Data].

▷ The "Module Configuration" window opens.
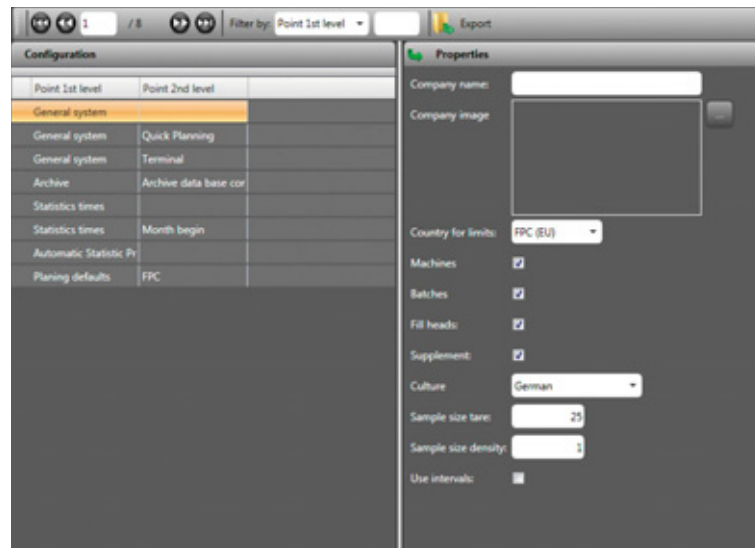
▷ The "Configuration" and "Properties" panes are displayed together with their respective parameter settings.

▶ In the "Configuration" pane, select a record.

▶ In the "Properties" pane, select the desired parameters for the selected record.

You can find the detailed description of the default settings for the main module in the chapter "Configuring the Main Module of "SPC@Enterprise"" on page 47.

Entering, Changing or Deleting Base Data
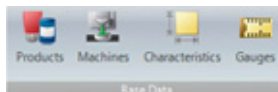
The "Base Data" menu icon group is used to enter, change or delete the following base data:

– Product data
  Describes the packaged products (product ID, product group, product name and price)

– Machine data
  Describes the filling machines that fill the products into the finished packaging in the preset filling quantities (machine ID, machine name, adjusting step, number of filling heads, number of samples etc.)

– Characteristic data
  Specifies the test characteristics in accordance with which products can be tested (gross finished packaging control, finished packaging control with fixed tare, finished packaging control with variable tare, initial weight and back weight for destructive tests, tare and density determination)
  These test characteristics are used to compile inspection plans.

– Gauge data
  Describes the gauges with which sampling can be performed (unit, measuring range and accuracy of the scales and density determination equipment)

Entering, Changing or Deleting Product Data

ℹ️ To enter product data for a new product or to change or delete existing product data, you need to have access rights from your administrator to the "Manage Products" function.
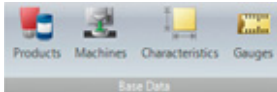
▶ In the "Base Data" menu icon group, click [Products].
▷ The "Product Management" menu icon group window opens.
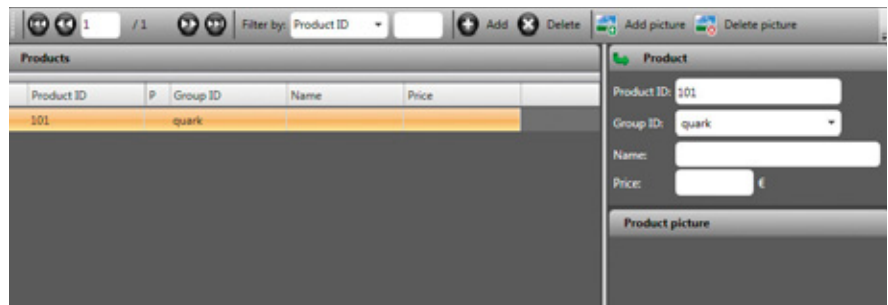
▷ The product records entered earlier are displayed in the "Products" pane (left).
▷ The previously configured parameters of the selected record are displayed in the "Product" pane (top right).
▷ Where applicable, a picture is displayed in the "Product picture" pane (bottom right).
▶ Add a new product record or select the product record that you want to change or delete.
„Quick Planning" provides a further option for creating a new product record (see "Configuring Inspection Plans Using "Quick Planning"" on page 106).
▶ Enter the following data in the "Product" pane:

Name of data field	Meaning
Product	Product ID number ID numbers are used to clearly identify the products. Each ID number must only be assigned to a single product.
Group	Product group to which the product belongs. Product groups provide an overview. You can either select an existing product group or type in the name of a new product group. This entry is optional.
Name	Product description Product descriptions serve to describe the product in more detail. They help to identify products quickly. This entry is optional.
Price	Product price This entry is optional.

Add Product Picture

To add a product picture (optional):
► Save the product picture file in a folder of your choice. Use the file format JPEG, GIF, BMP, PNG or TIFF.
► In the toolbar, click "Add picture" and select the path for the product picture file.
▷ The product picture is transferred to the database and displayed in the "Product picture" pane. In the "Products" pane, product records with a product picture are identified in column "P" by the ![icon] icon.

Entering, Changing or Deleting Filling Machine Data

ℹ To enter data about the filling machines that fill the products into the finished packaging in the preset filling quantities, or to change or delete existing data about the filling machines, you need to have access rights from your administrator to the "Manage Machines" function. The option to enter, change or delete machine data must also be enabled (see "Performing the General System Configuration" on page 47).
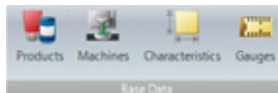
► In the "Base Data" menu icon group, click [Machines].
▷ The "Machine Base Data" window opens.
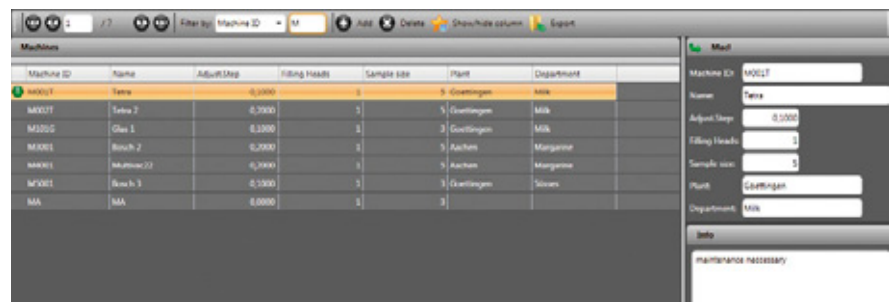
▷ The machine records entered earlier are displayed in the "Machines" pane (left).
▷ The previously configured parameters of the selected machine record are displayed in the "Machine" pane (top right).
▷ Where applicable, additional information is displayed in the "Info" pane (bottom right).
► Add a new machine record or select the machine record that you want to change or delete.
"Quick Planning" provides a further option for creating a new machine record (see "Configuring Inspection Plans Using "Quick Planning"" on page 106).

▷ Enter the following data in the "Machine" pane:

Name of data field	Meaning
Machine	Filling machine ID number ID numbers are used to clearly identify the filling machines. Each ID number must only be assigned to a single filling machine.
Name	Description of the filling machine The description serves to describe the filling machine in more detail. This entry is optional.
Adjustment Step	Precision of the filling machine Enter the finest possible standard unit rating for the filling machine (in grams or milliliters). This standard unit rating is used in the terminal application "SPC@Enterprise Sampling" as the basis for the adjustment recommendation. If you enter "0.5" here, for example, the recommended adjustments are are in steps of -1, -0.5, 0, +0,5, +1 etc. If you enter "0" here, the terminal application "SPC@Enterprise" will not provide any adjustment recommendations. The adjustment recommendation can be positive despite overfilling if the standard deviation is so great that more than 2 % of packages are between -T1 and -T2 or packages are below -T2. The adjustment recommendation then gives a target value that is above the nominal value so as to comply with the requirements of Directive 76/211/EC.
Filling Heads	Number of filling heads on the filling machine This data field is only displayed if the option to define filling heads was enabled (see "Filling Heads" in the chapter "Performing the General System Configuration" on page 47).
Sample Size	Number of finished packages to be checked per sample You can abort sampling ahead of schedule so that at any time sampling can be performed with less finished packages than indicated here.
Plant	Description of the plant where the filling machine is installed Descriptions help to identify filling machines quickly. This entry is optional.
Department	Description of the department where the filling machine is installed Descriptions help to identify filling machines quickly. This entry is optional.

Add Info
▷ Click the "Info" pane and enter the information.
▷ The information is displayed in the "Info" pane.

Entering, Changing or Deleting Test Characteristics

ℹ️ To enter, change or delete test characteristics data, you need to have access rights from your administrator to the "Manage Characteristics" function.

You have to set up the test characteristics according to which your products can be tested in order that you can later compile inspection plans from these test characteristics (see "Configuring Inspection Plans" on page 113 or "Configuring Inspection Plans Using "Quick Planning"" on page 106).
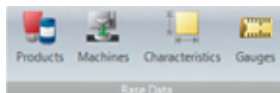
To enter, change or delete test characteristics data:
▶ In the "Base Data" menu icon group, click [Characteristics].
▷ The "Manage characteristics" window opens.
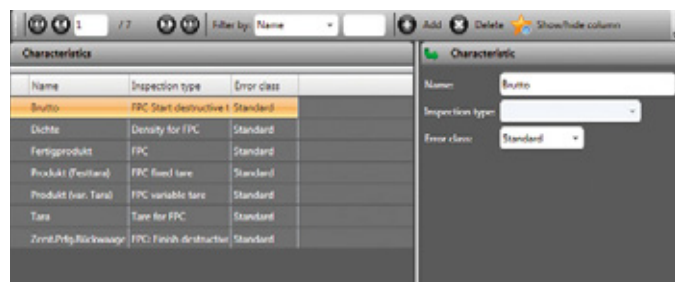
▷ The characteristics records entered earlier are displayed in the "Characteristics" pane (left).
▷ The previously configured parameters of the selected characteristic record are displayed in the "Characteristic" pane (right).
▶ Add a new characteristic record or select the characteristic record that you want to change or delete.
▶ Enter a description of the characteristic in the "Characteristic" pane. From this description, all users must be able to identify which characteristic is to be tested.

Specify Test Type ▶ In the "Characteristic" pane, in the "Test type" data field, select a test type.

Test type	Meaning
Density for FPC	Determine the density of a liquid product with a suitable method of your choice The density of the liquid product is saved so that, on weighing the liquid product, the volume can be calculated from the weight.
FPC: Start destructive test	Part of a destructive test: Weighing packaged products to determine their gross weight The tare weight can not be determined during the production process before gross weighing has taken place. Therefore, after this inspection the packages have to be opened and emptied in order to subsequently determine the tare (See "FPC: Finish destructive test" in this table).
FPC	Weighing packaged products to calculate whether the tolerance limits were maintained

Test type	Meaning
FPC: Finish destructive test	Part of a destructive test: Weighing opened and emptied packages The tare weight could not be determined during the production process before gross weighing has been performed (see "FPC: Start destructive test" in this table). Therefore, after the gross weighing operation the packages have to be opened and emptied in order to subsequently determine the tare weight.
FPC fixed tare	Weighing packaged products to determine the net weight The tare weight is not individually determined for each package but adopted as a fixed value. According to FPVO, disregarding the tare variance in this way is only permissible if the standard deviation of the tare weights does not exceed 20% of the tolerable negative error ($\Delta Qn + TU1$).
FPC variable tare	Weighing packaged products in the same sequence as that of the tare weighing in order to determine the net weight The empty packages were weighed in advance in order to determine the tare weight (see "Tare for FPC" in this table). The packages do not need to be opened and emptied.
Tare for FPC	Weighing empty packages to determine the tare weight

▶ In the "Characteristic" pane, in the "Error class" data field, select an error class for the alarm configuration.

Error class	Meaning
Standard	Testing of this product characteristic is a standard procedure.
Important	Testing of this product characteristic is important.
Critical	Testing of this product characteristic is critical.

Entering, Changing or Deleting Gauge Data

> To enter gauge data or to change or delete existing gauge data, you need to have access rights from your administrator to the "Manage Gauge Details" function.
> To enter gauge data or to change or delete existing gauge data, you need to have access rights from your administrator to the "Manage Gauge Details" function.

You have to specify the gauges that you use to perform sampling so that you can subsequently assign the gauges to the test stations. Test stations are managed in the "Stations" menu (see "Configuring Test Stations" on page 122).
▶ In the "Base Data" menu icon group, click [Gauges].

▷ The "Gauge Management" window opens.
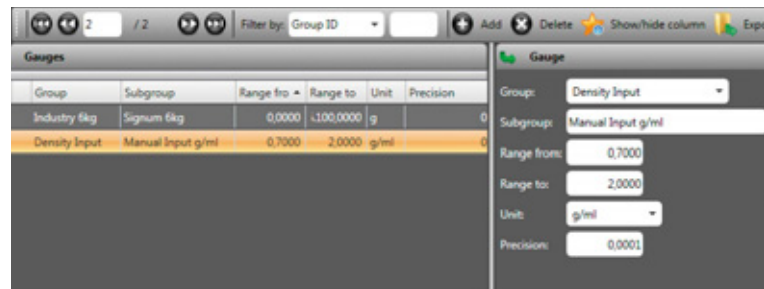
▷ The gauge records entered earlier are displayed in the "Gauges" pane (left).
▷ The previously configured parameters of the selected gauge record are displayed in the "Gauge" pane (right).
► Add a new gauge record or select the gauge record that you want to change or delete.
► Enter the following data in the "Gauge" pane (right):

Name of data field	Meaning
Group	Gauge group to which the gauge belongs Gauge groups provide an overview. You can either select an existing gauge group or type in the name of a new gauge group.
Subgroup	Gauge subgroup to which the gauge belongs Gauge subgroups provide an overview. You can either select an existing gauge subgroup or type in the name of a new gauge subgroup.
Range from	Lower limit of the gauge's measuring range ► Enter this lower limit in the unit that you specify in the "Unit" data field.
Range to	Upper limit of the gauge's measuring range ► Enter this upper limit in the unit that you specify in the "Unit" data field.
Unit	Unit of measurement displayed by the gauge
Precision	Measurement precision of the gauge ► Enter this accuracy in the unit that you specified in the "Unit" data field.

Planning Inspections

You guarantee the specified quality of your finished packages by taking samples from production and inspecting them. Use the "Planning" menu icon group to plan the type, scope and evaluation of these inspections. The results of the inspections are also integrated into the dynamic sample display and the monitoring and evaluation functions.
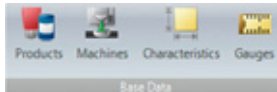
The "Planning" menu icon group is used to enter, change or delete inspection plans and work orders.
– Inspection plans provide a general template for inspections. They describe the test characteristics, test station, gauges and individual inspection positions.
  The inspection plans are then assigned to work orders.
  There are two options for creating inspection plans:
  Either use "Quick Planning" (see page 106). Here you start with a product and its filling machine and then assign a test type and the relevant inspection positions. Or first enter the inspection plans into a list (see page 113), open an inspection plan and then configure its inspection positions.
– Work orders define the specific execution of inspections and the time basis on which the statistics are generated. Work orders define the batch and the time span for the inspection as well as the product to be tested. An inspection plan is assigned to each work order.

Basic Principles of Inspection Planning

Which inspections should you plan? Your production process, the type of your filling machines, your products and the type of packages define where samples can be taken from the product flow and how the tare weight can be determined.

FPC (Gross Only)

Requirements:
– You produce individual goods.
– You can remove unpacked products prior to packaging.

Procedure for inspections:
– Unpacked products are weighed for the actual inspections, i.e. the respective net weights are directly determined by weighing.

Non–destructive Test With Fixed Tare

Requirements:
– You can remove packages before filling.
– The standard deviation of the tare weight is not more than 20% of the tolerable negative error.

Procedure for inspections:
– Before the actual inspections, the mean tare weight has to be determined once-only by weighing a sample of packages (see "Main Menu / Working Menu: Menu Item "Tare Weighing"" on page 186). The mean tare weight is automatically calculated from the individual values and stored. You can re-determine the mean tare weight at any time, e.g. before running a new batch.
– Packages are weighed in the actual inspections, i.e. the respective gross weight is determined. The stored mean tare weight is automatically subtracted from the gross weights so that you get the respective net weights.

Non-destructive Test With Variable Tare

Requirements:
– You can remove packages before filling.
– The packages do not meet the requirements on fixed tare weights.

Procedure for inspections: Tare -> Gross
– First the respective individual tare weights must be determined by weighing a sample of packages (tare initial weight) These individual tare weights are automatically stored.
– Next the packages are filled and weighed in the same sequence (gross back weighing). The individual tare weights are automatically subtracted from the gross weights so that you get the respective net weights.

Destructive Test

Requirement:
– You can not remove the packages before filling.

Procedure for inspections: Gross -> Tare
– First the individual gross weights are determined by weighing a sample of packaged products (gross initial weight). These individual gross weights are automatically stored.
– Next the packages are opened, completely emptied and weighed in the same sequence (tare back weighing). The individual tare weights are automatically subtracted from the stored individual gross weights so that you get the respective net weights.

Tare Weighing

Requirements:
– You produce packaged goods.

Procedure for inspections:
– Before inspections with a fixed tare weight, the mean tare weight has to be determined once-only by weighing a sample of packages (see "Main Menu / Working Menu: Menu Item "Tare Weighing"" on page 186). The mean tare weight is automatically calculated from the individual values and stored. You can re-determine the mean tare weight at any time, e.g. before running a new batch.
– In inspections with a fixed tare weight, the stored mean tare weight is automatically subtracted from the gross weights so that you get the respective net weights.

Density Determination

Requirements:
– You fill liquid products.
– You specify a volume as the nominal filling quantity.
– You determine the nominal filling quantity by weighing.

Procedure for inspections:
– Before the actual inspections, the density value has to be determined once-only by performing one or more density determination tests using the method of your choice (see "Main Menu / Working Menu: Menu Item "Density"" on page 187). The density value is automatically calculated from the density determination tests and stored. You can re-determine the density value at any time, e.g. before running a new batch (in accordance with FPVO).
– In the actual inspections, liquids are weighed, i.e. the respective net weight value is determined. These net weight values are automatically divided by the stored density value so that you get the respective volumes.

Configuring Inspection Plans Using "Quick Planning"

ℹ️ To enter inspection plans or change or delete existing inspection plans using "Quick Planning", you need to have access rights from your administrator to the "Start Simplified Planning" function.

"Quick Planning" combines and simplifies the functions in the "Inspection Plans" and "Work Orders" menu icon groups. In this way you can create inspection plans in a few steps. If you need full functionality or flexibility when creating and configuring inspection plans, see "Configuring Inspection Plans" on page 113 and "Configuring Work Orders" on page 118.

To enter an inspection plan or change or delete existing inspection plans using "Quick Planning":

▶ In the "Planning" menu icon group, click [Quick Planning].
▷ The "Quick Planning" window opens.
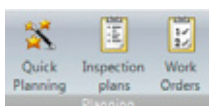
▷ In the "Plan Header" pane (top left), you specify the product to be inspected and its respective filling machine.
▷ In the "Test Type" pane (left middle), you specify the test type.
▷ Information about filling out the respective fields is displayed in the "Info" pane (bottom left).
▷ As soon as an inspection plan is created or selected, its inspection positions are displayed in the "Order Positions" pane (right). Depending on the test type, this data includes the net weight, tare weight and, where appropriate, the density, each broken down into detailed information, e.g. limit values and statistical data.

In the "Plan Header" pane, first you can select either a filling machine or a product.

Select Product

To select a product:

► In the "Plan Header" pane, click the magnifying glass symbol next to the "Product" field.
Alternatively, you can enter a new product ID and press the tab key. This opens the "Create a new product?" dialog box. If you confirm this by clicking [Yes], a new product is recorded in the database. Subsequently, you can add the name, product group and price of this product in the "Product base data" window (see page 98). You can immediately create an inspection plan for the new product. To close the displayed inspection plan, delete the product ID in the "Product" field and press the tab key.

▷ The "Products" window opens. Products for which an inspection plan already exists are identified by the {*} symbol.

► In the "Products" window, click the product for which you want to create, change or delete an inspection plan.
► In the toolbar of the "Products" window, click [Apply].
▷ The ID number and name of the product are displayed in the "Plan Header" pane. If an inspection plan already exists for the selected product, the inspection positions for this inspection plan are displayed in the "Order Positions" pane and the filling machine associated with the product is displayed in the "Plan Header" pane.

Select Filling Machine

To select a filling machine:

► In the "Plan Header" pane, click the magnifying glass symbol next to the "Machine" field.
Alternatively, you can enter a new machine ID and press the tab key. This opens the "Create a new machine?" dialog box. If you confirm this by clicking [Yes], a new machine is recorded in the database. Subsequently, you can add the name, adjustment step, number of filling heads and the number of samples of this machine in the "Machine base data" window (see page 99). You can immediately create an inspection plan for the new filling machine. To close the displayed inspection plan, delete the machine ID in the "Machine" field and press the tab key.

▷ The "Machines" window opens. Filling machines for which an inspection plan already exists are identified by the {*} symbol.
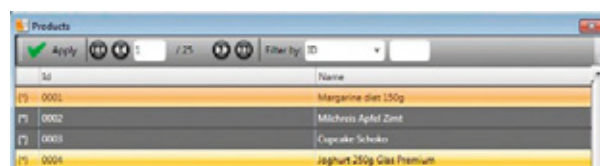
► In the "Machines" window, click the filling machine for which you want to create, change or delete an inspection plan.
► In the toolbar of the "Machines" window, click [Apply].

▷ The ID number and name of the filling machine are displayed in the "Plan Header" pane. If an inspection plan already exists for the selected filling machine, the inspection positions for this inspection plan are displayed in the "Order Positions" pane and the product associated with the filling machine is displayed in the "Plan Header" pane.

▷ In the "Plan Header" pane, in the "Batch type" field, select the batch management type and, where appropriate, in the "Batch" field, select the batch description.

Batch type	Meaning
No batches	The products have no batch descriptions. The "Batch" field is grayed.
Decentralized	You can suggest the batch description in the "Batch" field. Employees at the test station can change this batch description.
Predefined	You must specify the batch description in the "Batch" field. Employees at the test station can not change this batch description.

You can enable or disable the option to define batches (see "Batches" in the chapter XX).

Define Test Type
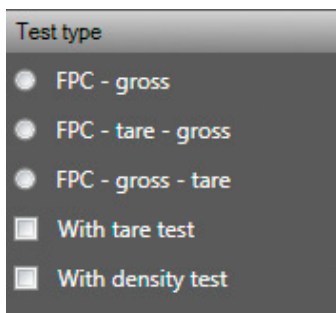
To specify the test type:

▷ In the "Test type" pane, select the appropriate test type for the product (cf. "Basic Principles of Inspection Planning" on page 104).

Test type	Meaning and suitability
FPC - gross	Non-destructive test in accordance with Directive 76/211/EC You weigh the filled containers in order to determine the gross weight.
FPC - tare - gross	Non-destructive test in accordance with Directive 76/211/EC First you weigh the empty containers. Then you weigh the filled containers in the same sequence. This method is not suitable if the containers are closed when they leave the filling machine, i.e. bottle filling.
FPC - gross - tare	Destructive test in accordance with Directive 76/211/EC First you weigh the filled containers. Then you open and empty the containers and weigh the empty containers in the same sequence. This method is suitable if the containers are closed when they leave the filling machine, i.e. bottle filling.
With tare test	Tare weighing is performed.
With density test	Density determination is performed. This is only necessary for liquid products.

▷ All data required to create an inspection plan are now available.

Add Inspection Plan	To create a new inspection plan:
	▶ In the toolbar, click [Add].
Enter Data for Product	▷ The tabs that are associated with the selected test type are displayed in the "Order Positions" pane.

Set Sample Size	▶ In the "FPC/Details" tab, in the "Sample size" field, enter the number of finished packages to be tested.
	Possible values: 1 to 999 individual values per sample
Set Test Interval	The "Use intervals" data field is only displayed if the option to define test intervals was enabled (see "Use intervals" in the chapter "Performing the General System Configuration" on page 47).
	▶ If you want to specify a test interval, activate the "Use intervals" check box and enter a test interval (1 to 120 minutes).
Configure Gauges	▶ In the "Gauge" field, select the gauge that will be used in testing.
	▶ In the "Unit" field, select the unit of measurement that the gauge displays.
Configure Tolerance Limits	▶ In the "Limit type" field, select the desired group of weight classes and tolerance limit definitions according to which the tolerance limits are to be calculated.
	You can change the calculation of these tolerance limits for the defined weight classes. You can also add and delete weight classes (see "Configuring Limits" on page 126).
	The software suggests one of the three groups of weight classes and tolerance limit definitions if you have to enter these. To change this suggestion see "Country for limits" in the chapter "Performing the General System Configuration" on page 47.
Set Nominal	▶ In the "Nominal" field, enter the nominal weight of the finished packaging and press the tab key.

▷ All fields with tolerance limits are filled out automatically – in accordance with the tolerance limit definition that you selected in the "Limit type" field and the weight class that your product falls into.

▶ Verify the fields that have tolerance limits.

Tolerance limit	Meaning
-T2	Absolute lower tolerance limit
-T1	Lower tolerance limit 1
-T	Lower tolerance limit
+T1	Upper tolerance limit 1
+T2	Upper tolerance limit 2
+T3	Upper tolerance limit 3
Lower Plausibility	Measurement values that lie below this tolerance limit are not accepted because it is assumed that the wrong product was weighed.
Upper Plausibility	Measurement values that lie above this tolerance limit are not accepted because it is assumed that the wrong product was weighed.
Standard deviation max.	Maximum allowable standard deviation

Configure Supplement

The "Supplement" and "Supplement type" data fields are only displayed if the option to define a supplement was enabled (see "Supplement" in the chapter "Performing the General System Configuration" on page 47). To specify a weight supplement:

▶ In the "Supplement" field, enter the supplementary weight to be weighed.
▶ In the "Supplement type" field, select how the entered supplement is to be allocated:
– Fixed: the supplement is also available in the final product
– Floating: the supplement is only available at the time of the inspection but not in the final product

Enter Data for Tare

The "Tare" tab is only available if the "With tare test" check box was activated in the "Test type" pane.

▶ On the "Tare/Details" tab, enter the following details:

Set Sample Size   ► In the "Sample size" field, enter the number of empty packages to be tested. Possible values: 1 to 120 individual values per sample
You can set the default for the sample size of the tare (see "Sample size - tare" in the chapter "Performing the General System Configuration" on page 47).

Configure Gauges   ► In the "Gauge" field, select the gauge that will be used to determine the test weight.

► In the "Unit" field, select the unit of measurement that the gauge displays.

Configure Tolerance Limits   ► In the "Limit type" field, select the desired group of weight classes and tolerance limit definitions according to which the tolerance limits are to be calculated.
You can change the calculation of these tolerance limits for the defined weight classes. You can also add and delete weight classes (see "Configuring Limits" on page 126).
The software suggests one of the three groups of weight classes and tolerance limit definitions if you have to enter these. To change this suggestion, see "Country for limits" in the chapter "Performing the General System Configuration" on page 47.

Set Nominal   ► In the "Nominal" field, enter the weight of the empty packaging and press the tab key.

▷ All fields with tolerance limits are filled out automatically.

► Verify the fields that have tolerance limits.

Tolerance limit	Meaning
LTL	Lower tolerance limit
UTL	Upper tolerance limit
Lower Plausibility	Measurement values that lie below this tolerance limit are not accepted because it is assumed that the wrong packaging was weighed.
Upper Plausibility	Measurement values that lie above this tolerance limit are not accepted because it is assumed that the wrong packaging was weighed.

Configure Supplement   The "Supplement" data field is only displayed if the option to define a supplement was enabled (see "Supplement" in the chapter "Performing the General System Configuration" on page 47). To specify a weight supplement for the packaging:
► Enter the supplementary weight in the "Supplement" field.
For tare weighing, the supplement can be both positive and negative. Account is always taken of the sum of the set tare weight value and the supplement, both in inspections and evaluations. The tare supplement makes it possible to work with varying tare values. For example, if you perform destructive tests and the bottle caps are not available for back weighing, you can specify the tare weight of the cap as the tare supplement (positive, separate, fixed tare weight value).

Enter Data for Tare

The "Density" tab is only available if the "With density test" check box was activated in the "Test type" pane.
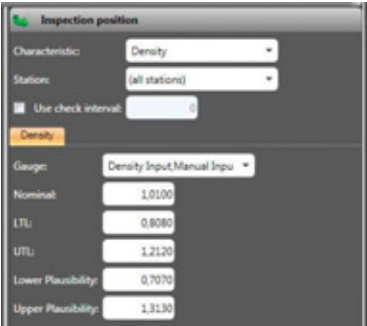
▶ On the "Density/Details" tab, enter the following data:

Set Sample Size

▶ In the "Sample size" field, enter the number of density determination operations to be performed during the inspection.
Possible values: 1 to 120 individual values per sample
You can set the default for the sample size for density determination (see "Sample size - density" in the chapter "Performing the General System Configuration" on page 47).

Configure Gauges

▶ In the "Gauge" field, select the gauge that will be used to determine the density.

Set Nominal

▶ In the "Nominal" field, enter the target density of the liquid in g/ml and press the tab key.

▷ All fields with tolerance limits are filled out automatically.

Configure Tolerance Limits

▶ Verify the fields that have tolerance limits.

Tolerance limit	Meaning
LTL	Lower tolerance limit
UTL	Upper tolerance limit
Lower Plausibility	Measurement values that lie below this tolerance limit are not accepted because it is assumed that there is a measurement error.
Upper Plausibility	Measurement values that lie above this tolerance limit are not accepted because it is assumed that there is a measurement error.

Automatic Statistics Printout
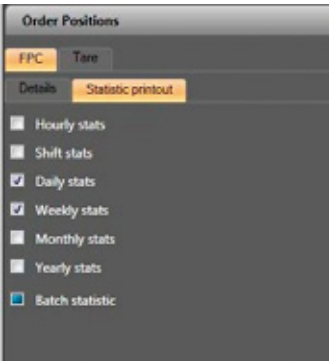
On completion of an inspection, the station on which the test was performed automatically stores the statistics. All test stations obtain the cumulated evaluation data from these statistics, which are also used to calculate the adjustment recommendation. You can specify the statistics type for automatic printouts as follows:

▶ On the "Statistic printout" tab on the "FPC", "Tare" and "Density" tabs, successively select the statistics type for the automatic printout.

Statistics type	Meaning
Hourly statistics	Statistics are printed out at the start of each hour. These statistics take account of all tests performed during the previous hour.
Shift statistics	Statistics are printed out at the start of each shift. These statistics take account of all tests performed during the previous shift.
Daily statistics	Statistics are printed out at the start of each day. These statistics take account of all tests performed during the previous day.
Weekly statistics	Statistics are printed out at the start of each week. These statistics take account of all tests performed during the previous week.
Monthly statistics	Statistics are printed out at the start of each month. These statistics take account of all tests performed during the previous month.
Yearly statistics	Statistics are printed out at the start of each year. These statistics take account of all tests performed during the previous year.
Batch statistics	Statistics are printed out at the start of each batch. These statistics take account of all tests performed on the previous batch.

If you do not specify a time under "Automatic statistics printout" when configuring the main module (see "Configuring the Automatic Statistics Printout" on page 54), the statistics are printed as shown in the above table.
However, if you do specify a time under "Automatic statistics printout" when configuring the main module, all completed statistics are printed at this time.
Printing takes place on the configured printer that is connected to the test station. If several test stations are configured as a print station, the test station whose system time reaches the printout time first is the only one that prints.

Configuring Inspection Plans

Inspection plans are a compilation of test characteristics that serve as a template for work orders. You can successively create individual inspection plans and work orders, or you can create them in one step using "Quick Planning" (see "Configuring Inspection Plans Using "Quick Planning"" on page 106).

> To enter inspection plans or change or delete existing inspection plans without "Quick Planning", you need to have access rights from your administrator to the "Manage Inspection Plans" function.

To enter an inspection plan or change or delete existing inspection plans without the aid of "Quick Planning":
► In the "Planning" menu icon group, click [Inspection plans].
▷ The "Planning" window opens.
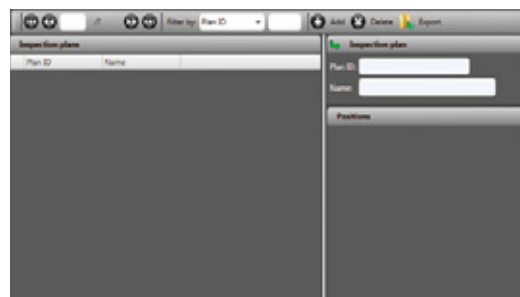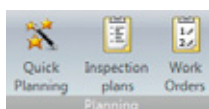
▷ The inspection plans entered earlier are displayed in the "Inspection plans" pane (left).

▷ The previously configured parameters of the selected inspection plan are displayed in the "Inspection plan" pane (top right).

▷ The previously configured inspection positions are displayed in the "Positions" pane (bottom right).

Delete Inspection Plan

To delete an inspection plan:

▶ In the "Inspection plans" pane, highlight the inspection plan that you want to delete and in the toolbar click [Delete].

Add Inspection Plan

To create a new inspection plan:

▶ In the toolbar, click [Add].

▷ The new inspection plan is displayed in the "Inspection plans" pane.

▶ Enter the following data in the "Inspection plan" pane:

Data field	Meaning
Plan ID	Inspection plan ID number ID numbers are used to clearly identify the inspection plans. Each ID number must only be assigned to a single inspection plan.
Name	Unique identification of this inspection plan so that everyone knows what it is to be used for.

Modify Inspection Plan

To configure a newly added inspection plan or to modify an existing inspection plan:

▶ In the "Inspection plans" pane, either double-click on the inspection plan or right-click on the inspection plan and then, in the context menu, click "Edit".

▷ The corresponding inspection plan opens.
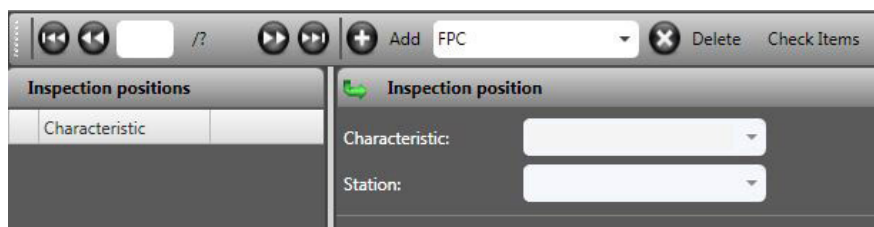
▷ The inspection plans entered earlier are displayed in the "Inspection positions" pane (left).

▷ In the "Inspection position" pane, the previously configured parameters of the selected characteristic are displayed on the "FPC", "Tare" and "Density" tabs (cf. "Entering, Changing or Deleting Test Characteristics" on page 101).

Sort Inspection Positions

To sort the inspection positions of an inspection plan:

▶ In the "Inspection positions" pane, click the row that you want to move. You can select several rows at the same time using Ctrl + click or Shift + click.

▶ Either click "Check items" in the toolbar or, in the "Inspection positions" pane, right-click and then, in the context menu, select "Check items".

▷ In the "Inspection positions" pane, the 🔃 icon is now displayed on all rows that were marked for moving.

▶ To move the marked rows up or down, right-click in the "Inspection positions" pane and then, in the context menu, click "Insert above" or "Insert below" as required.

▷ All rows that were marked for moving are moved accordingly.

Add Inspection Positions
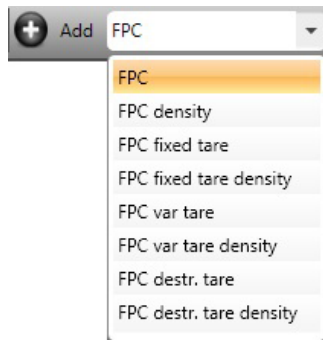
To create new inspection positions:

▶ Select the required test type from the drop-down list in the toolbar and then click [Add].

▷ The inspection positions belonging to the selected test type are displayed in the "Inspection position" pane. You can now click these successively and enter the individual parameters for the inspection positions.

Modify Inspection Positions

To modify inspection positions:

▶ In the "Characteristic" field, select the characteristic for which you want to modify the inspection positions.

▷ The inspection positions belonging to the selected test type are displayed in the "Inspection position" pane. You can now click these successively and enter the individual parameters for the inspection positions.

▶ In the "Station" field, select the test station on which the inspection is to be performed. Select "All Stations" for inspections that you want to be available on all test stations.

▶ Fill out the required fields on the displayed "FPC", "Tare" and "Density" tabs. Only those tabs required for the selected test type are displayed.

"FPC" Tab

▶ In the "Gauge" field, select the gauge that will be used for testing.

▶ In the "Unit" field, select the unit of measurement that the gauge displays.

▶ In the "Limit type" field, select the desired group of weight classes and tolerance limit definitions according to which the tolerance limits are to be calculated. You can change the calculation of these tolerance limits for the defined weight classes. You can also add and delete weight classes (see "Configuring Limits" on page 126).
The software suggests one of the three groups of weight classes and tolerance limit definitions if you have to enter these. To change this suggestion, see "Country for limits" in the chapter "Performing the General System Configuration" on page 47.

▶ In the "Nominal" field, enter the nominal weight of the finished packaging and press the tab key.

▷ All fields with tolerance limits are automatically filled out – in accordance with the tolerance limit definition that you selected in the "Limit type" field and the weight class that your product falls into.

▷ Verify the fields that have tolerance limits.

Tolerance limit	Meaning
-T2	Absolute lower tolerance limit
-T1	Lower tolerance limit 1
-T	Lower tolerance limit
+T1	Upper tolerance limit 1
+T2	Upper tolerance limit 2
+T3	Upper tolerance limit 3
Lower Plausibility	Measurement values that lie below this tolerance limit are not accepted because it is assumed that the wrong product was weighed.
Upper Plausibility	Measurement values that lie above this tolerance limit are not accepted because it is assumed that the wrong product was weighed.
Standard deviation max.	Maximum standard deviation

Configure FPC Supplement

The "Supplement" and "Supplement type" data fields are only displayed if the option to define a supplement was enabled (see "Supplement" in the chapter "Performing the General System Configuration" on page 47). To specify a weight supplement:

▷ In the "Supplement" field, enter the supplementary weight to be weighed.
▷ In the "Supplement type" field, select how the entered supplement is to be allocated:
– Fixed: the supplement is also available in the final product
– Floating: the supplement is only available at the time of the inspection but not in the final product

"Tare" Tab

▷ In the "Gauge" field, select the gauge that will be used to check the tare weight.
▷ In the "Unit" field, select the unit of measurement that the gauge displays.
▷ In the "Limit type" field, select the desired group of weight classes and tolerance limit definitions according to which the tolerance limits are to be calculated.
You can change the calculation of these tolerance limits for the defined weight classes. You can also add and delete weight classes (see "Configuring Limits" on page 126).
The software suggests one of the three groups of weight classes and tolerance limit definitions if you have to enter these. To change this suggestion, see "Country for limits" in the chapter "Performing the General System Configuration" on page 47.
▷ In the "Nominal" field, enter the weight of the empty packaging and press the tab key.
▷ All fields with tolerance limits are filled out automatically.

▶ Verify the fields that have tolerance limits.

Tolerance limit	Meaning
LTL	Lower tolerance limit
UTL	Upper tolerance limit
Lower Plausibility	Measurement values that lie below this tolerance limit are not accepted because it is assumed that the wrong packaging was weighed.
Upper Plausibility	Measurement values that lie above this tolerance limit arenot accepted because it is assumed that the wrong packaging was weighed.

Configure Tare Supplement

The "Supplement" data field is only displayed if the option to define a supplement was enabled (see "Supplement" in the chapter "Performing the General System Configuration" on page 47). To specify a weight supplement for the packaging:

▶ Enter the supplementary weight in the "Supplement" field.
For tare weighing, the supplement can be both positive and negative. Account is always taken of the sum of the set tare weight value and the supplement, both in inspections and evaluations. The tare supplement makes it possible to work with varying tare values. For example, if you perform destructive tests and the bottle caps are not available for back weighing, you can specify the tare weight of the cap as the tare supplement (positive, separate, fixed tare weight value).

"Density" Tab

▶ In the "Gauge" field, select the gauge that will be used to determine the density.
▶ In the "Nominal" field, enter the target density of the liquid in g/ml and press the tab key.
▷ All fields with tolerance limits are filled out automatically.
▶ Verify the fields that have tolerance limits.

| Tolerance limit	Meaning
LTL	Lower tolerance limit for operational purposes
UTL	Upper tolerance limit for operational purposes
Lower Plausibility	Measurement values that lie below this tolerance limit are not accepted because it is assumed that there is a measurement error.
Upper Plausibility	Measurement values that lie above this tolerance limit are not accepted because it is assumed that there is a measurement error.

Configuring Work Orders

Work orders connect the test characteristics defined in the inspection plan to products and machines. You can successively create individual inspection plans and work orders, or you can create them in one step using "Quick Planning" (see "Configuring Inspection Plans Using "Quick Planning"" on page 106).

> ℹ️ To enter work orders or to change or delete existing work orders, you need to have access rights from your administrator to the "Manage Work Orders" function.

To enter a work order or change or delete existing work orders without using "Quick Planning":

▶ In the "Planning" menu icon group, click "Work Orders".
▷ The "Manage Work Orders" window opens.
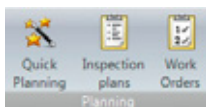
▷ The work orders entered earlier are displayed in the "Work Orders" pane (left).
▷ The previously configured parameters of the selected work order are displayed in the "Work Order" pane (top right).
▷ The inspection positions of the inspection plan which was assigned to the work order are displayed in the "Positions" pane (bottom right).

Delete Work Order

To delete a work order:
▶ In the "Work Orders" pane, select the work order that you want to delete and in the toolbar click [Delete].

Add Work Order

To add a new work order:
▶ In the toolbar, click [Add].
▷ The new work order is displayed in the "Work Orders" pane.
▶ Enter the following data in the "Work Order" pane:

Data field	Meaning
Work order	Work order ID number ID numbers are used to clearly identify the work orders. Each ID number must only be assigned to a single work order.
Work order name	Unique identification of this work order so that everyone knows what it is to be used for.
Start date	Date from which this work order applies
End date	Date on which this work order ends

Data field	Meaning	
Product	ID number of the product to which this work order relates	
Product name	Product description	
Batch type	Batch management type None: The products have no batch descriptions Decentral: Suggested batch description which can be changed at the test station Predefined: Fixed batch description which can not be changed at the test station	
Work order with global batch	The batch description allocated to a product will be applied to all filling machines.	
Work order status	Active:	The work order was already called up by a test station and can be called up again at any time.
	Ready:	The work order can be called up by the test station at any time. Once the work order has been called up, the work order status automatically switches to "active".
	Locked:	The work order is temporarily unavailable to the test station.
	Closed:	The work order can no longer be called up by the test station.

Copy Work Order

To copy a work order:
► In the "Work Orders" pane, right-click on the work order that you want to copy and then, in the context menu, click "Copy Work Order".
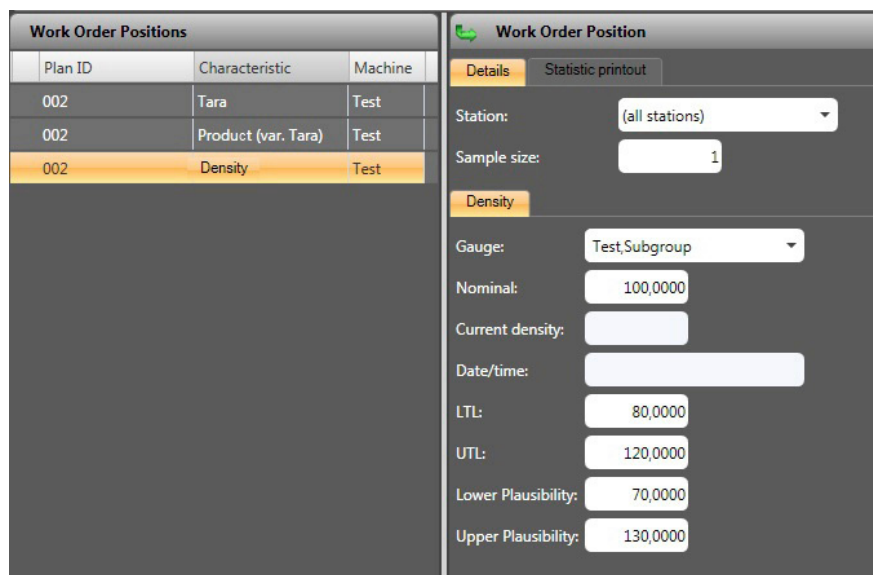▷ The "Copy Work Order Positions" window opens.
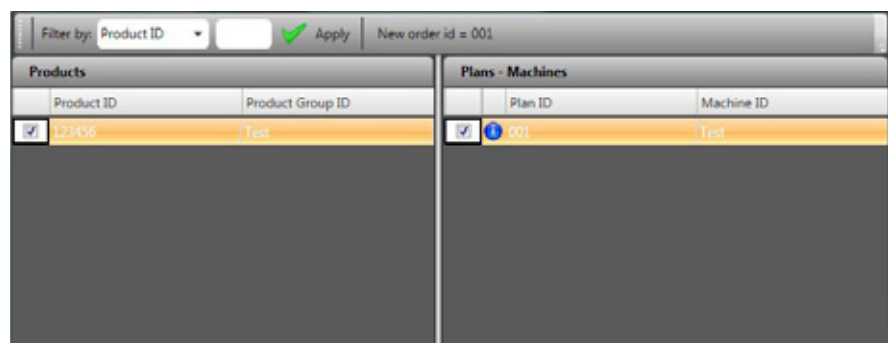
► Activate the check boxes of the products for which you want to use the copied work order.

▶ Activate the check boxes of the inspection plan/filling machine combination on which you want to use the copied work order.
Hover over the 🛈 symbol to display the inspection positions associated with the inspection plan/filling machine combination.
▶ In the toolbar, click ...
... "New Order ID = Product ID" to assign the product ID as the name for the copied work order
... "New Order ID = ..." to give the copied work order the same name as the work order that was copied
▶ In the toolbar, click "Apply".
▷ The copied inspection plan is displayed in the "Work Orders" pane.

Edit Work Order

To configure a newly added work order or to modify an existing work order:
▶ In the "Work Orders" pane, double-click on the work order
or right-click on the work order and then, in the context menu, click "Edit".
▷ The corresponding work order opens.

▷ The inspection positions entered earlier are displayed in the "Work Order Positions" pane (left).
▷ The previously configured parameters of the selected work order position are displayed in the "Work Order Position" pane (right).

Sort Inspection Positions

To sort the inspection positions of a work order:
▶ In the "Work Order Positions" pane, click the row that you want to move.
You can select several rows at the same time using Ctrl + click or Shift + click.
▶ Right-click in the "Inspection positions" pane and then, in the context menu, click "Check items".
▷ In the "Work Order Positions" pane, the 🔄 symbol is now displayed on all rows that were marked for moving.
▶ To move the marked rows up or down, right-click in the "Work Order Positions" pane and then, in the context menu, click "Insert above" or "Insert below" as required.
▷ All rows that were marked for moving are moved accordingly.

**Add Inspection Positions and Assign to Filling Machines**
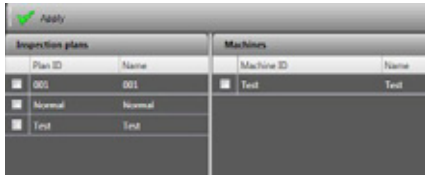
To add inspection positions specified in inspection plans and assign to filling machines:

► In the toolbar, click [Add] or right-click in the "Work Order Position" pane and then, in the context menu, click "Add inspection plan", "Add machine" or "Change machine".

▷ The "Inspection plans - machine selection" window opens.

► Activate the check boxes of the inspection plans which contain the inspection positions that you want to add to the work order.

► Activate the check boxes of the filling machines that you want to add to the work order.

► In the toolbar, click [Apply].

▷ The "Inspection plans - machine selection" window closes. The selected inspection positions are displayed in the "Work Order Position" pane. You can change the details and the configuration of the automatic statistics printout on the "Details" and "Statistic printout" tabs so that they vary from the inspection plan (cf. "Configuring Inspection Plans" on page 113).

Automatic Statistics Printout

On completion of an inspection, the test station on which the inspection was performed automatically stores the statistics. All test stations obtain the cumulated evaluation data from these statistics, which are also used to calculate the adjustment recommendation. You can specify the statistics type for automatic printouts as follows:
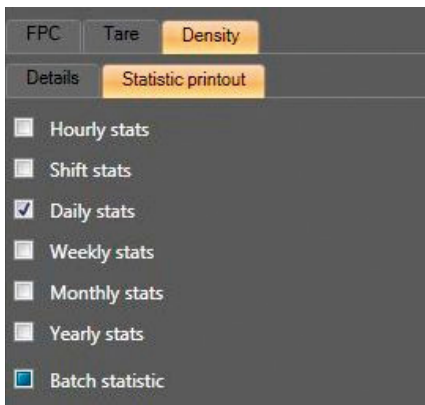
► On the "Statistic printout" tab, select the statistic type for the automatic printout.

Statistic type	Meaning
Hourly statistics	Statistics are printed out at the start of each hour. These statistics take account of all tests performed during the previous hour.
Shift statistics	Statistics are printed out at the start of each shift. These statistics take account of all tests performed during the previous shift.
Daily statistics	Statistics are printed out at the start of each day. These statistics take account of all tests performed during the previous day.
Weekly statistics	Statistics are printed out at the start of each week. These statistics take account of all tests performed during the previous week.
Monthly statistics	Statistics are printed out at the start of each month. These statistics take account of all tests performed during the previous month.
Yearly statistics	Statistics are printed out at the start of each year. These statistics take account of all tests performed during the previous year.
Batch statistics	Statistics are printed out at the start of each batch. These statistics take account of all tests performed on the previous batch.

If you do not specify a time under "Automatic Statistic Printout" when configuring the main module (see "Configuring the Automatic Statistics Printout" on page 54), the statistics are printed as shown in the above table. However, if you do specify a time under "Automatic Statistic Printout" when configuring the main module, all completed statistics are printed at this time.

Printing takes place on the configured printer that is connected to the test station. If several test stations are configured as a print station, the test station whose system time reaches the printout time first is the only one that prints.

To add more inspection plans and filling machines to the work order or to change or delete the assigned inspection plans and filling machines:

▶ Right-click in the "Work Order Positions" pane and then, in the context menu, click the desired function ("Add inspection plan", "Delete inspection plan", "Add machine", "Delete machine" or "Change machine").
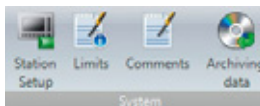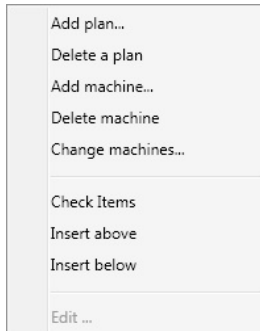
Setting up the Test Environment

The "System" menu icon group is used to enter, change or delete the following system data:

– Stations
  Describes the test stations
  Supplies the data that can be displayed in "Monitoring"
  Supplies the data from which statistics can be generated
– Limits
  Describes the tolerance limits and weight classes
– Comments
  Allows the setting up of comments, thus making it possible for the test stations, after the inspections, to send a freely worded message that can be displayed in the statistics
– Archive data
  To move data into the archive

Configuring Test Stations

Test stations are computers in the network which are connected to the gauges and on which the terminal application "SPC@Enterprise Sampling" is installed. The measurement data from the sampling tests, which can be displayed in "Monitoring" and from which statistics can be generated, run on the test stations.

You can configure test stations in two ways:
– Either on a central computer using the application "SPC@Enterprise" (see below)
– Or on the actual test station using the terminal application "SPC@Enterprise Sampling" (see "Setup Menu: Menu Item "Software Setup"" on page 169).

To configure test stations on a central computer using the application "SPC@Enterprise", you need to have access rights from your administrator to the "Manage Station Configuration" function.

You can configure the test stations to suit your production system. If you want to use the same test station for several different inspections, if necessary connect multiple gauges and configure the test station for universal use so that numerous inspection plans can be selected. If you only want to use a test station for one specific inspection, just connect a single gauge and restrict the configuration of the test station so that only one inspection plan can be selected.

Add Test Station
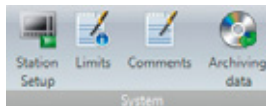
To add a test station or to change or delete existing test stations:
▶ In the "System" menu icon group, click "Stations".
▷ The "Station configuration" window opens.
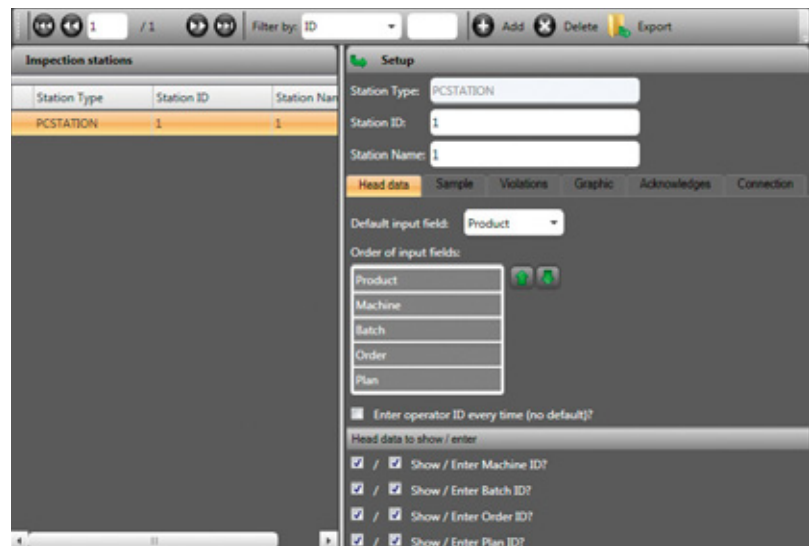
▷ The test stations entered earlier are displayed in the "Inspection Stations" pane (left).
▷ To clearly identify the test station, the data are displayed in the "Setup" pane (right). At the top is the station type, which you can not enter or change manually.

| Station type	Meaning
PCSTATION	The test station was added manually as described below.
ETHERNET	A test station running the terminal application "SPC@Enterprise Sampling" was detected in the network and automatically added as a test station.

▷ The tabs for configuring the connected gauges and setting up the statistics to be automatically generated on this test station are displayed underneath.
▶ In the "Inspection stations" pane, select a test station that you want to add, change or delete.
▶ In the "Setup" pane, enter the unique identification data for the test station.

Field	Meaning
Station	Station ID This information together with the user name and the current version number of the software are displayed later in the status information of the terminal application "SPC@Enterprise Sampling" ("TERMINAL INFORMATION" display area).
Station Name	Description of the test station

Add Gauge

▶ In the "Inspection stations" pane, double-click on the test station to which you want to add gauges, or right-click on the test station and then, in the context menu, click "Edit".

▷ The "Gauge Management" window opens.
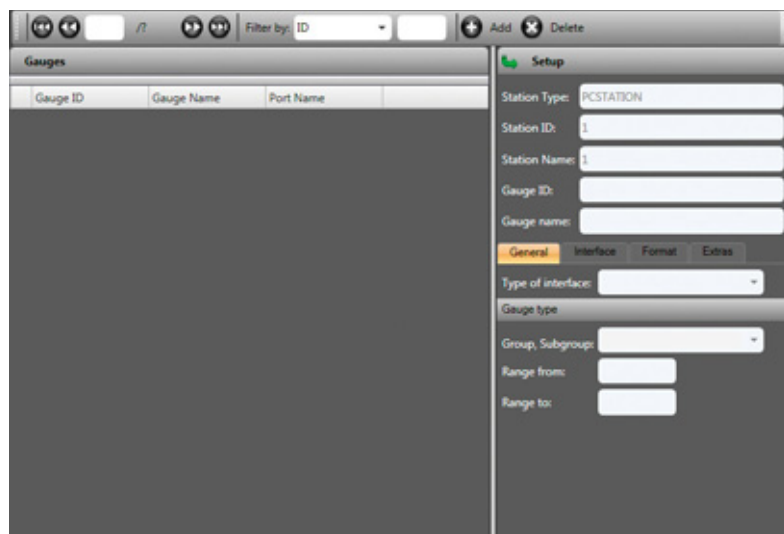
▷ The gauges that were added to this test station earlier are displayed in the "Gauges" pane.

▷ The data for assigning the gauge to the test station and for the unique identification of the gauge are displayed in the "Setup" pane. Below this, up to four tabs are displayed. These tabs are for configuring communication between the test station and the gauge terminal.

▶ Add a new gauge or, in the "Gauges" pane, select a gauge that you want to change or delete.

▶ Fill out the data fields in the "Setup" pane:

Data field	Meaning
Gauge ID	Unique identification of the gauge
Gauge name	Description of the gauge

▶ Fill out the data fields on the tabs.

Tab	Data field	Parameter	Meaning
General	Interface type	RS-232	If the test station and the terminal are connected, additional tabs for configuring the communication are displayed
		Manual input	If the test station and the terminal are not connected, measurements are entered manually on the test station
	Group, Subgroup		Group and subgroup of the gauge
	Range from		Lower limit of the gauge's measuring range
	Range to		Upper limit of the gauge's measuring range
Interface	Port no.		You can find this information in the technical data of the connected terminal.
	Baud rate		
	Parity		
	Data bits		
	Stop bits		
Format	String length		You can find this information in the technical data for the connected terminal.
	First position of value		
	Last position of value		
	First position of unit		
	Last position of unit		
Extras	Number of decimal places		You can find this information in the technical data for the connected terminal.
	Factor		
	First position ID for OK values		
	Last position ID for OK values		

▶ Save the data that you entered in the "Gauge Management" window and then close or minimize that window.

▷ The "Station configuration" window reopens. The added gauges are displayed on the "Gauges" tab.

Configure Test Station

On the remaining tabs in the "Station configuration" window, you can specify:
– which header data a user must or is allowed to enter at his station in addition to the absolutely essential inputs concerning the product, and the sequence in which the header data are displayed at the user station (Header Data);
– the parameters according to which the sample weighings are to be performed and the inputs that are allowed at the user station (Sample);
– the sampling events (Violations) for which an info message is to be displayed on the terminal;
– how charts are to be displayed (Graphic);
– which events have to be acknowledged (Acknowledgments).

These settings are described in the chapter "Setup Menu: Menu Item "Software Setup"" on page 169.

Once a test station configuration has been saved, it is available for selection at a test station (see "Integrating a Test Station - Station Initialization" on page 165). The test station then adopts this configuration. If you change the configuration of the test station, the change only becomes effective at the test station if you restart the terminal application "SPC@Enterprise Sampling" or select "Upload Config" in the setup menu.

Configuring Limits

To enter weight class and tolerance limit definitions or change or delete existing weight class and tolerance limit definitions, you need to have access rights from your administrator to the "Manage Limits" function.

The application "SPC@Enterprise" calculates tolerance limits in accordance with the definitions and weight classes that are specified in the "Limits" window. Three groups of weight class and tolerance limit definitions are already preconfigured:
– FPC (EU)
– NL
– US
These weight class and tolerance limit definitions satisfy the legal requirements that were in effect on delivery of the software. If weight classes or tolerance limit definitions should change, it is necessary to enter these changes in the application "SPC@Enterprise". You can also add new weight classes or tolerance limit definitions, e.g. for markets outside the European Union and the USA.

The software suggests one of the three groups of weight classes and tolerance limit definitions if you have to enter these. To change this suggestion, see "Country for limits" in the chapter "Performing the General System Configuration" on page 47.
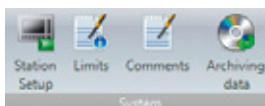
▶ In the "System" menu icon group, click "Limits".

▷ The "Limits Config" window opens.

▷ The weight classes entered earlier are displayed in the "Limits" pane (left).
▷ The previously configured parameters of the selected weight class are displayed in the "Limit" pane (top right).
▷ The previously configured formulas for calculating the tolerance limits of the selected weight class are displayed in the "Formulas" pane (bottom right).

Add Group or Weight Class

You have to add new weight classes if an existing legal requirement on filling quantities changes. You have to add a new group of weight classes if you have to comply with previously undefined legal requirements on filling quantities, e.g. Japanese or Chinese directives on filling quantities.

To add new weight classes or a new group of weight classes:
► In the toolbar, click [Add].
▷ A new row is displayed in the "Limits" pane. The data fields of the associated panes, "Limit" and "Formulas", are empty.
► Fill out the data fields in the "Limit" pane.

Name	Meaning
Limit	Name of the group of weight classes Groups of weight classes describe weight classes that belong together, e.g. the 10 weight classes of the European Directive 76/211/EC.
Nominal-Min	Lower end of the weight class
Nominal-Max	Upper end of the weight class
Name	Description of the weight class or group of weight classes

Enter or Modify Formula

Formulas

CalcStdMax:	X*0.48687
CalcLTL:	X-(X*0.18)
CalcLCL:	X-(X*0.09)
CalcLWL:	X-(X*0.045)
CalcUWL:	X+(X*0.045)
CalcUCL:	X+(X*0.09)
CalcUTL:	X+(X*0.18)

To add new formulas or modify an existing formula for calculating tolerance limits:

▶ Enter the formulas in the data fields of the "Formulas" pane.

Name	Meaning
CalcStdMax	Calculation of the maximum permissible standard deviation
CalcLTL	Calculation of the lower tolerance limit
CalcLCL	Calculation of the lower control limit
CalcLWL	Calculation of the lower warning limit
CalcUWL	Calculation of the upper warning limit
CalcUCL	Calculation of the upper control limit
CalcUTL	Calculation of the upper tolerance limit

You can use the following operators in formulas. Be aware of upper-case and lower-case letters here.

Operator	Meaning
X	Variable for an individual measurement value
+	Addition
-	Subtraction
*	Multiplication
/	Division
(...)	Brackets for arranging formulas
.	Decimal point
log	Natural logarithm
sqr	Square root
cos	Cosine - trigonometric function
tan	Tangent - trigonometric function
sin	Sine - trigonometric function

Duplicate Weight Class

To duplicate a weight class:

▶ Right-click on the weight class that you want to duplicate and then, in the context menu, click "Duplicate".

▷ A new weight class is added to the "Limits" pane. All data fields in the "Limit" and "Formulas" panes are transferred and can now be changed.

Configuring Comments

> ℹ️ To enter default comments or to change or delete existing default comments, you need to have access rights from your administrator to the "Manage Sample Comments" function.

You can enter default text for each individual test station or for all test stations. After inspecting a sample, employees at the test station can select from these comments as well as add to and save them. Comments are then shown in the dynamic sample display. You can set whether empty comment fields are allowed or not (see "Allow empty comment" in the chapter "Configure Terminal" on page 50).

To add default comments or to change or delete existing default comments:
▶ In the "System" menu icon group, click "Comments".
▷ The "Manage comments" window opens.
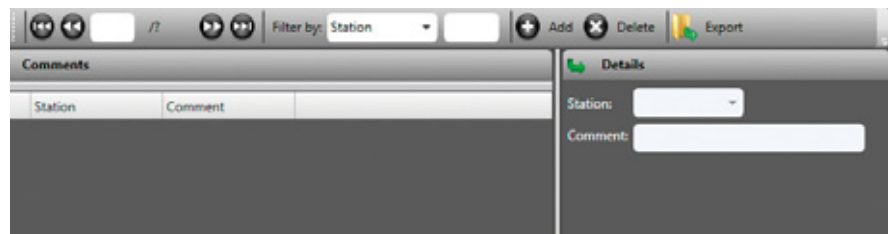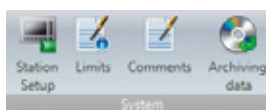
▷ The comments entered earlier are displayed in the "Comments" pane (left).
▷ The previously configured parameters of the selected comment are displayed in the "Details" pane (right).
▶ Add a new comment or select the comment that you want to change or delete.
▶ In the "Details" pane, in the "Station" field, select the test station at which you want the comment to be available for selection.
▶ In the "Details" pane, in the "Comment" field, enter the text for the comment.

Monitoring Production - Monitoring

QM Personnel

QM personnel work with the "Monitoring" module. In order to be able to use the "Monitoring" module as QM personnel you need the corresponding access rights. The "Monitoring" module helps you to monitor production. It shows you the data recorded in the system. Before you can use the "Monitoring" module, first you have to enter the data that the software works with.

Requirements

In order to monitor your production using the "Monitoring" module and display messages, the following requirements must be met:

– All base data, inspection plans and work orders must be recorded and configured in the main module (see "Entering, Changing or Deleting Base Data" on page 97 and "Planning Inspections" on page 104).

– Test stations were correctly configured and integrated (see "Configuring Test Stations" on page 122).

– Inspections were performed and measurement data were recorded (see "Performing Inspections – Sampling" on page 158).

Correct Sequence when Working

The following sequence of operations is necessary to allow the "Monitoring" module to correctly display the results of the inspections performed on your production:

– First, create a profile with **"Alarm Configuration"** so that violations can be displayed in "Monitoring". In doing so, adjust the profile to suit your production requirements and the legal regulations, e.g. Finished Packaging Directive (see "Managing Alarm Configuration" on page 131). You can refine the display of alarms and warnings with additional profiles.

– Next, adjust the **"Base Configuration"** of the "Monitoring" module so that the range and updating of the displayed measurement values and the presentation of the charts provide meaningful results.

– Finally, observe the results of the inspections performed on your production with the aid of the **"Monitor"** (see page 134), the **"Dynamic Sample Display"** (see page 141) and/or the **"Alarm List"** (see page 137).

Starting the Monitoring Module

To start the "Monitoring" module, proceed as follows:

▶ In the application menu, click "SPC@Enterprise".

▷ The three tabs, "SPC@Enterprise - Main", "SPC@Enterprise - Monitoring" and "SPC@Enterprise - Evaluation", are displayed.

▶ Click the "SPC@Enterprise - Monitoring" tab.

▷ The "Monitoring" and "Configuration" menu icon groups are displayed.
You can set the alarm configuration and adjust the base configuration via the "Configuration" menu icon group (see next chapter). You can monitor your production via the "Monitoring" menu icon group. "Monitor" (page 134), "Alarm List" (page 137) and "Dynamic Sample Display" (page 141) are provided for this purpose.
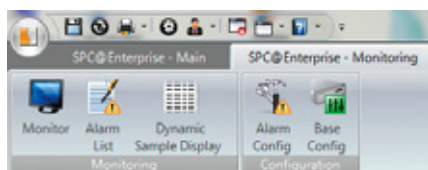
Configuring the Monitoring Module

ℹ️ To use the "Config Data" menu, you need to have access rights from your administrator to the "Manage System Main Configuration" function.
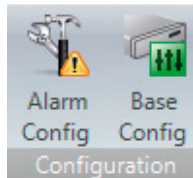
The "Configuration" menu icon group serves to enter, modify or delete the alarm configuration and to adjust the base configuration.

Managing Alarm Configuration

ℹ️ To enter, modify or delete an alarm configuration, you need to have access rights from your administrator to the "Manage Monitor Alarm Configuration" function.

To set up certain violations so that they are particularly noticeable on the monitor, create profiles for warnings and alarms with "Alarm Configuration". A profile defines the importance attached to violations and indeed for a specific combination of department, filling machine, product and test characteristic.
As soon as you display the results of the inspections, the monitor automatically searches for the most specific profile for each sample. This means that the monitor searches for a profile that precisely matches the combination of department, filling machine, product and test characteristic. If no such profile is available, the monitor searches for a partly matching profile or uses a general profile.

To enter a profile in the alarm configuration or to change or delete an existing profile:
▶ In the "Configuration" menu icon group, click [Alarm Configuration].
▷ The "Alarm Configuration" window opens.
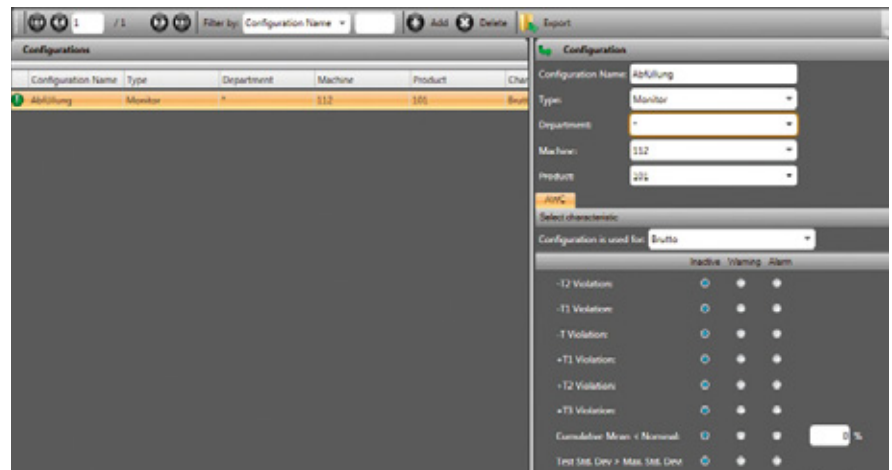
▷ The header data of the previously entered profiles are displayed in the "Configurations" pane (left).
▷ The previously configured characteristics of the selected profile are displayed in the "Configuration" pane (top right).
▷ The importance of the violations is specified in the "FPC" pane (bottom right).
▶ Add a new profile with [Add] or, in the "Configurations" pane, highlight a profile that you want to change or delete.

"Configuration" Pane

▶ Enter the following data in the "Configuration" pane:

Name of data field	Meaning
Configuration name	Name under which the profile is saved This name is freely selectable.
Configuration type	Selection of the configuration type for the profile You can select two configuration types: – Monitor: The profile applies to the monitor (see "Help and Tool Tips" on page 25). – Alarm list: The profile applies to the alarm list (see "General Information" on page 42).
Department	The profile applies to the department specified here.
Machine	The profile applies to the filling machine specified here.
Product	The profile applies to the product specified here.

"FPC" Pane

The "FPC" pane is located underneath the "Configuration" pane. You specify the importance of the violations here.
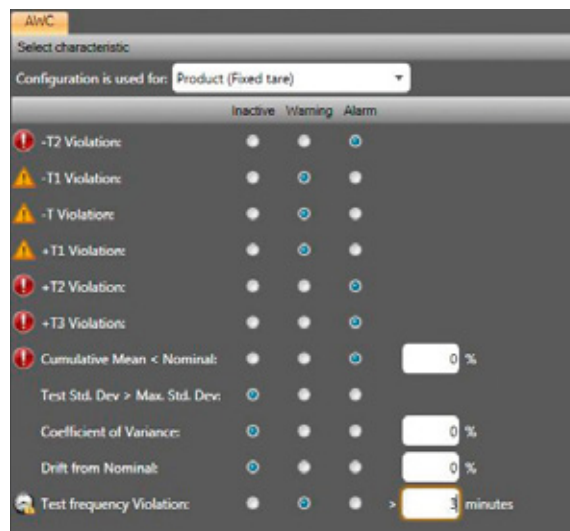
▶ From the "Configuration is used for" drop-down list, select the test characteristic for which you want the profile to apply.
   – Gross
   – Density
   – Finished product
   – Product (fixed tare)
   – Product (variable tare)
   – Tare
   – Destructive test back weight (-> net)
   You can find a detailed description of these characteristic data in the chapter "Entering, Changing or Deleting Test Characteristics" on page 101.

▶ Assign the importance that you want each violation to have in this profile:
   – Inactive: These violations produce neither an alarm nor a warning.
   – Warning: These violations produce a warning. The ⚠ icon is displayed alongside the warning. In the case of the "Test frequency violation", the 🔍 icon is displayed instead.

- Alarm: These violations produce an alarm. The icon is displayed alongside the warning. In the case of the "Test frequency violation", the icon is displayed instead.

▷ These data are displayed in the "FPC" pane.

▶ Save all inputs and changes to the alarm configuration.

▶ Make sure that the icon is not displayed.

> ℹ The data are automatically checked for plausibility and completeness.
> If the icon is displayed, your inputs are either incomplete or erroneous.
> Complete and check your inputs.

Managing Base Configuration

To view the settings for the "Monitoring" module or change the existing configuration:

▶ In the "Configuration" menu icon group, click [Config Data].

▷ The "Module Configuration" window opens.
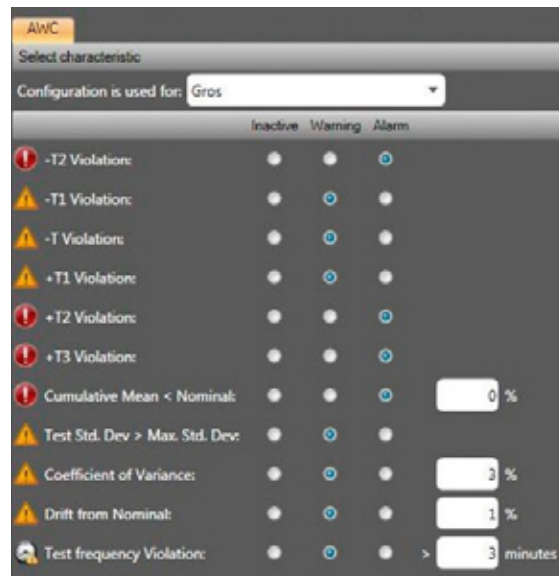
▷ The "Configuration" and "Properties" panes are displayed together with their respective parameter settings.

▶ In the "Configuration" pane, select a record.

▶ In the "Properties" pane, select the desired parameters for the selected record. Adjust all base configuration parameters so that the range and updating of the measurement values displayed in the monitor and the presentation of the charts provide meaningful results.
You can find the detailed description of the basic settings for the "Monitoring" module in the chapter ""Navigation" Pane" on page 135.

Monitor Alarm List Dynamic Sample Display

Monitoring

Menu Icon Group "Monitoring"

ℹ️ To use the "Monitoring" menu icon group, you need to have access rights from your administrator to the "Manage Monitor" function.
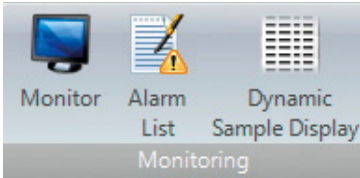
You can use the "Monitoring" menu icon group to monitor your production. "Monitor" (page 134), "Alarm List" (page 137) and "Dynamic Sample Display" (page 141) are provided for this purpose.

Monitoring Production with the Monitor

ℹ️ To display warnings and alarms in the monitor, you need to have access rights from your administrator to the "Manage Displaying of Dynamic Sample Data" function.
Also, in order for violations to be displayed in "Monitoring", there must be at least one profile in the "Alarm configuration".

▶ In the "Monitoring" menu icon group, click [Monitor].
▷ The "Monitor" window opens.
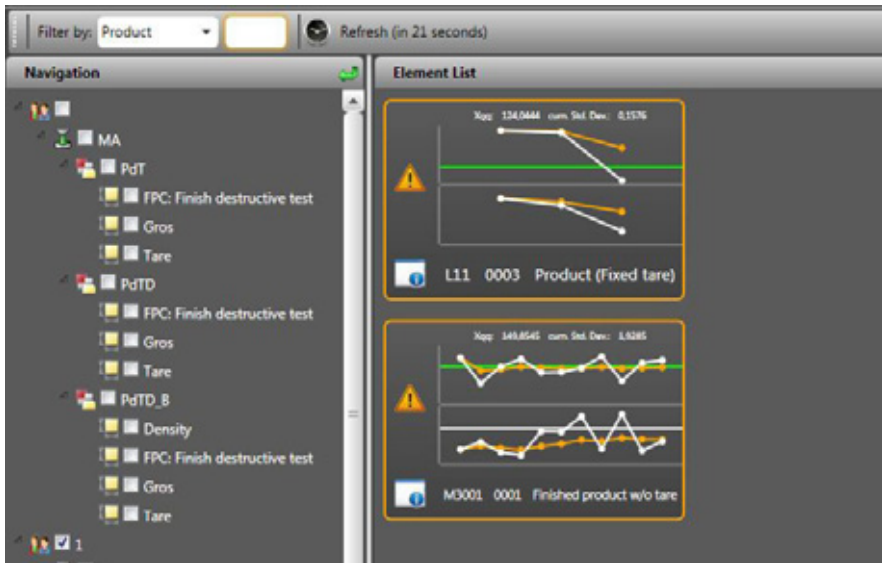
The toolbar gives you the option to filter the displayed data by the following criteria:

Filter name	Filter function
Department	The department of the filling machine from which the sample was taken
Machine	The filling machine from which the sample was taken
Product	The product that was inspected in the sample
Characteristic	The test characteristic that was inspected in the sample

▶ In the "Filter by" drop-down list, select the field by which you want to filter.
▶ In the adjacent field, if necessary enter a value by which you also want to filter.
▷ The filtered data are displayed in the "Navigation" pane in the form of a tree structure.
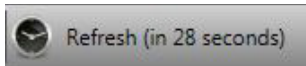
The [Refresh] button is also available in the toolbar. This shows you when the next measurement data from inspections will be called up from the server and hence when the monitor will be refreshed. If you click the [Refresh] button, the monitor updates immediately. You specify the preset time interval under "Refresh interval" (see "The characteristics of the selected violation are displayed in the "Details" pane." on page 139).

"Navigation" Pane

The "Navigation" pane shows the data for the monitored processes in the form of a tree structure. Check boxes allow you to select the characteristics for the graphic view. For greater clarity, you can expand or collapse the menu tree using the arrow button in the toolbar.
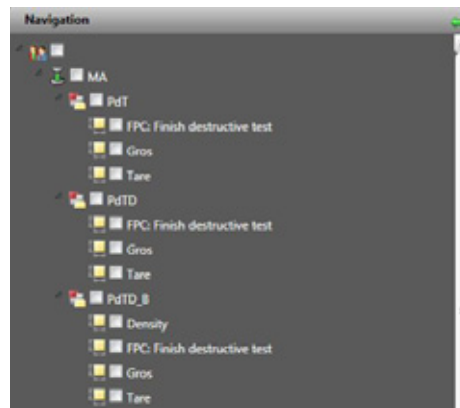
If you are working with batches, each batch is presented as a single item drawn from a combination of department, filling machine, product and test characteristic. Inspection results from test weighings (cf. "Main Menu / Working Menu: Menu Item "Test Weighing"" on page 187) and closed batches are not displayed in the monitor.

▶ Fully expand the menu tree.
▶ Activate the check boxes of the characteristics that you want to see in the graphic view.

"Element List" Pane

The "Element list" pane shows a graphic view of the characteristics selected in the "Navigation" pane.

Context Help

In the graphic view, using the context help you can display detailed information about an item in the form of a list:

▶ Hover over the 🔵 icon or over a measured value on a chart.

▷ The respective information is displayed below your cursor in the form of a list.

If you hover over the 🔵 icon, the following information is displayed:

Information	Meaning
Department	Description of the department associated with the selected item
Machine	Description of the filling machine associated with the selected item
Product	Description of the product associated with the selected item
Batch	Description of the batch associated with the selected item
Characteristic	Description of the test characteristic associated with the selected item
Plan	Description of the inspection plan associated with the selected item
Order	Description of the work order associated with the selected item

If you hover over a measured value on a chart, the following information is displayed:

Information	Meaning
Characteristic	Description of the test characteristic
Date/time	Date and time of the test characteristic
Measured values	Measured values of the test characteristic
Depending on the work order or test characteristic, you can see individual or multiple values here.

If the item contains warnings or alarms, the corresponding ⚠ warning icon or 🔴 alarm icon is displayed above the 🔵 icon and the item has a colored border.

To display all violations for this item:

▶ Click the ⚠ warning icon or the 🔴 alarm icon.

Additional Pane "Details"

To open a detailed view of an item:

> ℹ️ In the base configuration, you can enable or disable the detailed view of the items by opening the properties of "Monitor – Base Config" and enabling or disabling the "Animate the toggling of details" check box.

▶ In the "Element list" pane, click the 🔵 icon of the item for which you want to show the detailed view.

▷ The "Details" pane is displayed.

A summary of the details of the selected item is displayed in the upper section of the pane.

The middle section shows the associated graphic display. The context help is also available in the graphic display (see "Help and Tool Tips" on page 25). You can also zoom a portion of the chart by selecting an area with your mouse.

You can find a detailed description of the characteristics of the item in the chapter "Step 5 – View Evaluations / Graphics" on page 200. In the lower area there are three buttons with the following functions:

Name of button	Meaning
Show/hide histogram	If you click this button, the histogram is shown next to the graphic display. You can hide the histogram by clicking this button again.
Original size	If you click this button, the zoom is reset and the graphic display is restored to its original size.
Hide details	You can hide the "Details" again by clicking this button.

Displaying Warnings and Alarms in the "Alarm List"

To display warnings and alarms in the alarm list, you need to have access rights from your administrator to the "Manage Alarm List" function.

► In the "Monitoring" menu icon group, click [Alarm List].

▷ The alarm list opens.

The toolbar gives you the option to filter the displayed data by the following criteria:

Filter name	Filter function
Department	The department of the filling machine from which the sample was taken
Machine	The filling machine from which the sample was taken
Product	The product that was inspected in the sample
Characteristic	The test characteristic that was inspected in the sample

▶ In the "Filter by" drop-down list, select the field that you want to use to filter the data.
▶ In the adjacent field, if necessary enter a value by which you also want to filter.
▷ The filtered data are displayed in the "Alarms" pane.

You can find the [Acknowledge] and [Highlight Violations] buttons alongside. You can highlight all the violations of a sample with the aid of the [Highlight Violations] button. To do this, proceed as follows:
▶ In the "Alarms" pane, select a violation from a sample.
▶ In the toolbar of the "Alarm List" window, click [Highlight Violations].
▷ All violations of the sample are highlighted.

You can acknowledge the previously selected violations of a sample with the aid of the [Acknowledge] button. To do this, proceed as follows:
▶ In the "Alarm List" toolbar, click "Acknowledge".
▷ The previously highlighted violations are acknowledged and removed from the list.
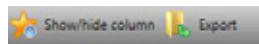
You can find the [Columns] and [Export] buttons on the far right.
► In the "Alarm List" toolbar, click [Columns].
▷ A selection window is displayed. You can use this to change the list view.
► Activate or deactivate the check boxes according to your needs and close the selection window.
▷ The list view is adjusted to suit your selection.
► In the "Alarm List" toolbar, click [Export].
▷ A selection window is displayed. You can use this to control the export function.
► Select the format and enter the file description. Then click [OK].
▷ The data are exported.

"Alarms" Pane

"The "Alarms" pane shows the alarm data for the monitored processes in the form of a list. The symbols in the first column show you whether you are dealing with an alarm or a warning.

	Violation	Department	Machine	Product	Characteristic	Period From	Period To
⚠	-T Violation	Milk	M001T	4321	Product (Fixed tare)	15.11.2010 14:42:53	15.11.2010 14:43:07
⚠	-T Violation	Milk	M001T	4321	Product (Fixed tare)	15.11.2010 16:33:48	15.11.2010 16:34:28
❗	+T1 Violation	Milk	M001T	4321	Product (Fixed tare)	15.11.2010 16:51:39	15.11.2010 16:52:48
⚠	-T Violation	Margarine	M3001	0001	Finished product w/o	19.11.2010 10:22:00	19.11.2010 10:22:07

To print the violations for the selected sample:
► Double-click on an alarm or a warning for the sample that you want to print.
▷ All violations for the sample are printed out on the Windows default printer.

"Details" Pane

To display more information about the available alarm data in the adjacent "Details" pane, proceed as follows:
► In the "Alarms" pane, highlight a violation from a sample.
▷ The characteristics of the selected violation are displayed in the "Details" pane.

The following characteristics are displayed:

Name of data field	Meaning
Violation	Type of violation
Department	The department from which the sample originates and in which a violation occurred.
Machine	The machine from which the sample originates and on which a violation occurred.
Product	The product that was inspected in the sample
Characteristic	The test characteristic that was inspected in the sample

"Header Data" Pane   The "Header Data" pane displays the header data for the selected record.
► Click the [Header Data] tab.
▷ The values for the selected record are displayed in the "Header Data" pane.
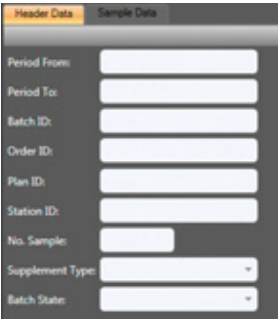
The following header data are displayed:

Name of data field	Meaning
Period From	Date and time at which the first value of the sample was determined
Period To	Date and time at which the last value of the sample was determined
Batch ID	The batch to which the sample belongs
Order ID	The work order according to which the sample was performed
Plan ID	The inspection plan according to which the sample was performed
Station ID	The test station on which the sample was performed
No. Samples	The number of weighings that were performed for the sample
Supplement Type	Type of supplement ("fixed" or "floating", cf. page 111 or page 116)

"Sample Data" Pane   The "Sample Data" pane displays the target values and the deviation of the samples for the selected record.
► Click the [Sample Data] tab.
▷ The values for the selected record are displayed in the "Sample Data" pane.
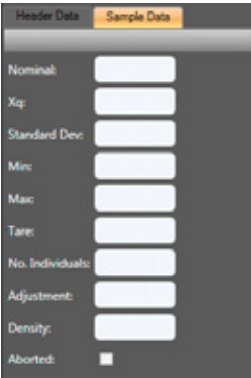
The following characteristics are displayed:

Name of data field	Meaning
Nominal	Target or nominal value
Xq	Mean value
Standard Dev.	Standard deviation
Min	Lowest measured value
Max	Highest measured value
Tare	Tare value
No. Individuals	Number of individual values
Adjustment	The adjustment made
Density	The density value used
Aborted	The sample was canceled

Showing Sample Data in the Dynamic Sample Display

To show sample data in the dynamic sample display, you need to have access rights from your administrator to the "Manage Monitor" function.

To show all sample data in the "Dynamic Sample Display" window:
► In the "Monitoring" menu icon group, click [Dynamic Sample Display].
▷ The "Dynamic Sample Display" window opens.
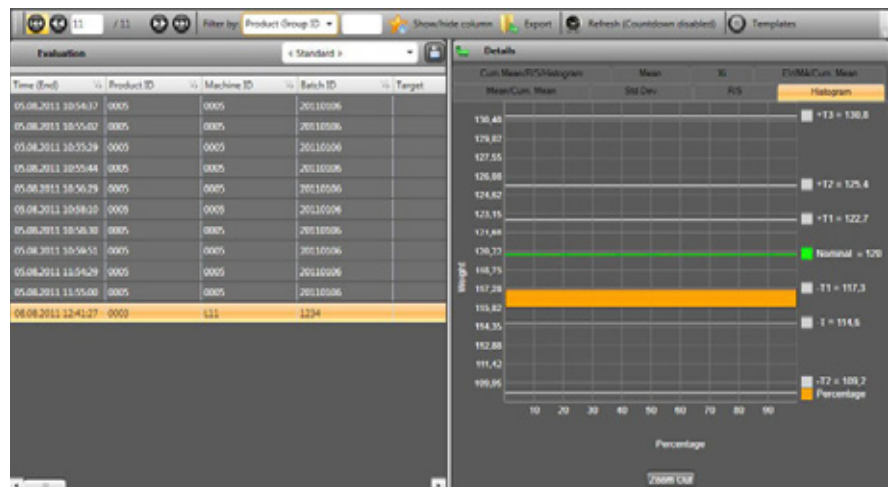
All sample data are displayed. The toolbar gives you the option to filter the displayed data by the following criteria:

Filter name	Filter function
Product group	The product group to which the product belongs You can define product groups when adding products to the database (see "Entering, Changing or Deleting Product Data" on page 98).
Product	The product that was inspected in the sample
Machine	The filling machine from which the sample was taken
Batch	The batch to which the product belongs
Characteristic	The test characteristic that was inspected in the sample

▶ In the "Filter by" drop-down list, select the field that you want to use to filter the data.
▶ In the adjacent field, if necessary enter a value by which you also want to filter.
▷ The filtered data are displayed in the "Evaluation" pane.

The toolbar gives you the option to browse the displayed data by the week:
▶ Click to scroll back one week.
▶ Click to scroll forward one week.
▷ The data for the corresponding week are displayed. In addition, the automatic refresh of the dynamic sample display is stopped. The countdown on the [Refresh] button is disabled.
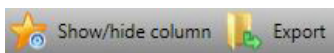
You can find the [Columns] and [Export] buttons alongside.
▶ In the "Dynamic Sample Display" toolbar, click [Columns].
▷ A selection window is displayed. You can use this to change the list view.
▶ Activate or deactivate the check boxes according to your needs and close the selection window.
▷ The list view is adjusted to suit your selection.
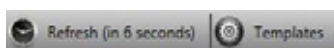
You can find the [Refresh] and [Defaults] buttons on the far right.
The [Refresh] button shows when the dynamic sample display will refresh.
To manually refresh the dynamic sample display instead:
▶ In the "Dynamic Sample Display" toolbar, click [Refresh].
▷ The most recent sample data are called from the server and the "Dynamic Sample Display" window immediately refreshes.

You access a selection window with previously stored views via the [Defaults] button. You can delete stored views via this selection window.
▶ In the toolbar of the "Dynamic Sample Display" window, click [Defaults].
▷ The "Views" selection window opens.
▶ Select the view of your choice.
▶ Delete the view of your choice and close the selection window.
▷ The "Dynamic Sample Display" window is opened in the view that you selected.
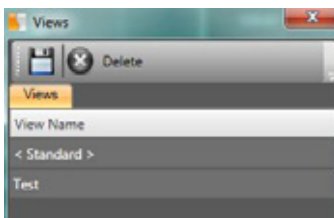
"Evaluation" Pane

"The "Evaluation" pane shows the weekly data for the monitored processes in the form of a list view.

By default, the latest sample is selected. This is at the very bottom of the list view. The measured values of this sample are cumulated and displayed in charts in the "Details" pane. You can find the detailed description of the basic settings for the "Monitoring" module in the chapter ""Navigation" Pane" on page 135.

To display the measured values of a different sample in charts in the "Details" pane:
▶ Click on the row of the sample that you want to display.
▷ The measured values of this sample are cumulated and displayed in charts in the "Details" pane. The automatic update of the dynamic sample display (countdown) is stopped. The automatic update resumes after a certain period provided that you set this up earlier (see page 135).
To display the comment entered about the marked sample:
▶ Double-click on the corresponding row.
▷ The dialog box for entering a comment opens. You can change the comment.

Advanced Filter Functions

In the "Evaluation" pane, you also have the option to compile additional filters for each column for the purpose of analyzing your data. There is a ⧩ filter icon next to every column heading for this purpose. To set up an additional filter for a column, proceed as follows:
▶ Click the ⧩ filter icon in the column of your choice.
▷ A selection menu specific to the column is displayed in the form of a list.
▶ Select the filter of your choice.
▷ The desired view and the filters used are displayed in the "Evaluation" pane.

(All)
(Custom)
(Blanks)
(NonBlanks)

Custom Filter

To set up a custom filter for the respective column, proceed as follows:
▶ Click the ⧩ filter icon in the column of your choice.
▷ A selection menu specific to the column is displayed in the form of a list.
▶ Select the filter (Custom filter).
▷ The "Custom Filter Selection" window opens.

(All)
(Custom)
(Blanks)
(NonBlanks)
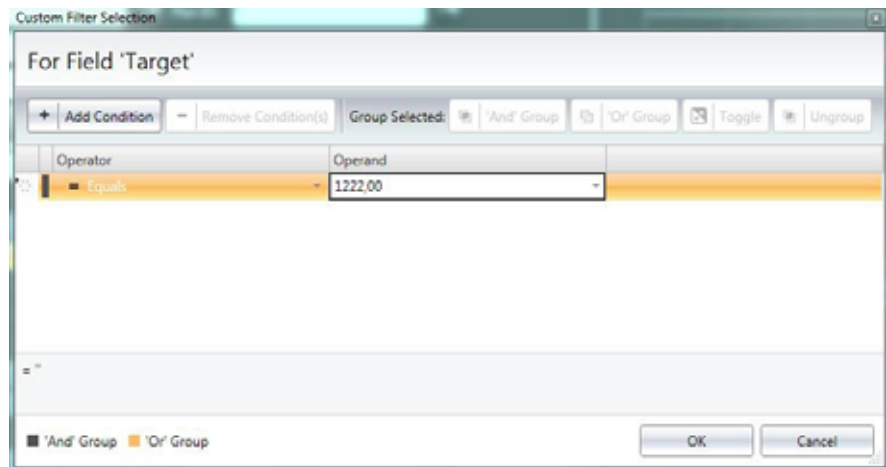
► Program your custom filter using the functions provided by the "Custom Filter Selection" window. Then click [OK].
▷ The filter is saved. The desired view including the custom filter is displayed in the "Evaluation" pane.

Modify List View

For greater clarity, you can adjust the list view with the [Columns] button in the toolbar.

In the upper right area of the "Evaluation" pane, you can save the list view under a name of your choice or select an existing list view from a drop-down list.
► Open the drop-down list in the "Evaluation" pane.
► Give the list view a name of your choice.
► Click the ![icon] icon next to the drop-down list.
▷ Your list view is saved and the "Evaluation" pane refreshes.
Or:
► Open the drop-down list in the "Evaluation" pane.
► Select an existing list view.
▷ The "Evaluation" pane refreshes.
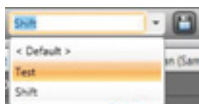
"Details" Pane   In the upper section of the "Details" pane there are tabs for various chart types for the selected record. The middle section shows the associated graphic display. The context help is also available in the graphic display (see "Help and Tool Tips" on page 25).

▶ In the "Details" pane, click the tab for the chart type of your choice.
▷ A graphic view of the selected chart type is displayed.

You can display the following chart types:

Tab name	Displayed chart type
Mean/Cum. Mean	Chart with mean values or cumulated mean values
Std. deviation	Chart with standard deviations
R/S	Range/sigma chart
Histogram	Histogram
Cum. Mean/R/S/ Histogram	Combined presentation including cumulated mean chart, range/sigma chart and histogram
Mean	Chart with mean values
Xi	Chart with individual values
EWMA/Cum. Mean	EWMA/cumulated mean value

Zoom Graphic Section   You can zoom a section of the graphic:
▶ Place your cursor on the graphic in the place that you want to zoom.
▶ Hold down the left mouse button and draw a rectangular section.
▷ A zoomed display of the selected area is shown.

To restore the graphic to its original size:
▶ Click [Reset].
▷ The graphic is restored to its original size.

Showing Process Data (Samples and Statistics) – Evaluation

QM Personnel

QM personnel work with the "Evaluation" module. In order to be able to use the "Evaluation" module as QM personnel you need the corresponding access rights. The "Evaluation" module helps you to monitor production. It allows you to evaluate the samples and statistics recorded in the system. Before you can use the "Evaluation" module, first you have to enter the data that the software works with.

Requirements

In order for the "Evaluation" module to monitor your production and for you to evaluate samples and statistics, the following requirements must be met:
– All base data, inspection plans and work orders were recorded and configured in the main module (see "Entering, Changing or Deleting Base Data" on page 97 and "Planning Inspections" on page 104).
– Test stations were integrated and configured (see "Configuring Test Stations" on page 122).
– Inspections were performed and measurement data were recorded (see "Performing Inspections – Sampling" on page 158).

To start the "Evaluation" module, proceed as follows:
► In the application menu, click "SPC@Enterprise".
▷ The three tabs, "SPC@Enterprise - Main", "SPC@Enterprise - Monitoring" and "SPC@Enterprise - Evaluation", are displayed.
► Click the "SPC@Enterprise - Evaluation" tab.
▷ The "Evaluation" and "Base Config" menu icon groups are displayed.
You can evaluate and output samples and statistics recorded in the system via the "Evaluation" menu icon group (see "Menu Icon Group "Evaluation"" on page 147).
You configure the settings for the "Evaluation" module via the "Base Config" menu icon group (see following section).

Menu Icon Group "Base Config".

> To use the "Base Config" menu icon group, you need to have access rights from your administrator to the "Manage System Main Configuration" function.
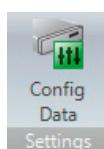
You can configure evaluations and make settings for the "Evaluation" module via the "Base Config" menu icon group. To enter, change or delete settings for the "Evaluation" module using the [Config Data] button, you need full access rights to the corresponding main module function (see "Defining Access Rights – User Management" on page 28).
The "Base Config" menu icon group is used to enter, change or delete the following settings:
– Sample evaluation
Describes the sample data and specifies the display and output format.
– Statistical data
Describes the statistical data and specifies the display and output format.

Configuring the "Evaluation" Module

ℹ️ To configure the "Evaluation" module, you need to have access rights from your administrator to the "Manage Evaluation Configuration" function.

To view the settings for the "Evaluation" module or change the existing configuration:
▶ In the "Base Config" menu icon group, click [Config Data].
▷ The module configuration opens.
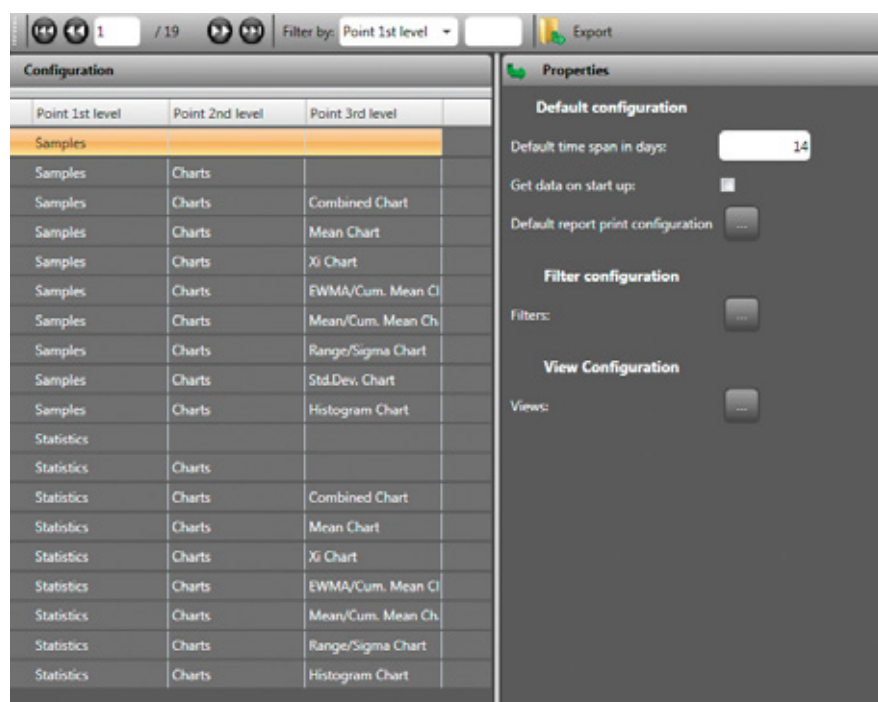
▷ The "Configuration" and "Properties" panes are displayed together with their respective parameter settings.
▶ In the "Configuration" pane, select a record.
▶ In the "Properties" pane, enter the desired parameters for the selected record.

You can find the detailed description of the basic settings for the "Evaluation" module in the chapter "Configuring "SPC@Enterprise Evaluation"" on page 57.

Menu Icon Group "Evaluation"
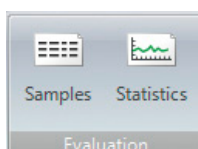
You can evaluate and output the samples and statistics recorded in the system via the "Evaluation" menu icon group. You start the evaluation of the recorded sample data via the [Samples] button. You start the statistical evaluation of the recorded data via the [Statistics] button.

Evaluating and Displaying Samples

> **i** To evaluate and display sample data, you need to have access rights from your administrator to the "Manage Evaluation Sample" function.

▷ In the "Evaluation" menu icon group, click [Samples].
▷ The "Samples" window opens.
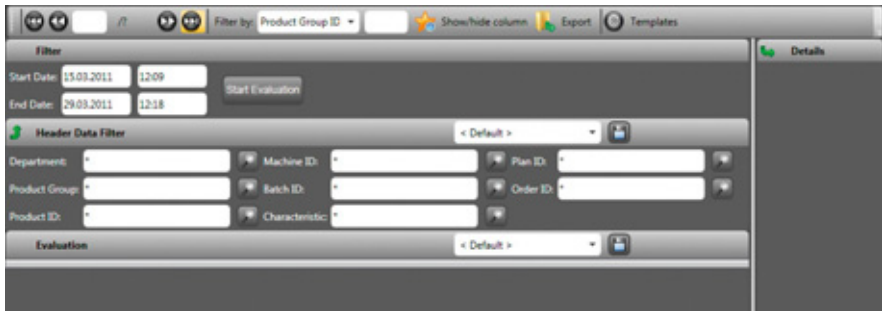
All sample data are displayed. The toolbar gives you the option to filter the displayed samples by the following criteria:

Filter name	Filter function
Product group	The product group to which the product belongs You can define product groups when adding products to the database (see "Configuring the "Evaluation" Module" on page 147).
Product	The product that was inspected in the sample
Machine	The filling machine from which the sample was taken
Batch	The batch to which the product belongs
Characteristic	The test characteristic that was inspected in the sample

▷ In the "Filter by" drop-down list, select the field that you want to use to filter the data.
▷ In the adjacent field, if necessary enter a value by which you also want to filter.
▷ The filtered data are displayed in the "Evaluation" pane.

In the toolbar, next to the filter function, you find the [Show/hide column] and [Export] buttons.
▷ In the toolbar of the "Samples" window, click [Show/hide column].
▷ A selection window with check boxes for each column is displayed.
▷ Compile a selection of the columns that are important for you by clicking the corresponding check boxes.
▷ Close the selection window.

▷ The list view is adjusted in accordance with your selection.
  For example, if you clicked "Sample Status", this column is displayed in the list view and you can identify test weighings by the "T" entry.

► In the toolbar of the "Samples" window, click [Export].

▷ A selection window is displayed. You can use this to control the export function.

► Select a format and enter a file description. Then click [OK].

▷ The data are exported.

You can find the [Templates] button on the far right. You access a selection window with the previously stored views and filter settings via the [Templates] button. You can delete stored views and filter templates via this selection window.

► In the toolbar of the "Samples" window, click [Templates].

▷ The "Views / Filters" selection window opens.

► Click the "Filters" or "Views" tab.

▷ The available filters or views are listed.

► Select the desired view or filter.

► Delete the desired view or filter and close the selection window.
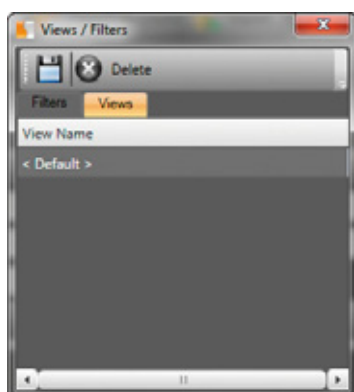
> If the user interface of the "Evaluation" module does not appear as described below, this may be due to the following reasons:

- – You do not have user rights for the "Evaluation" module.
- – No sampling was performed and hence there is a lack of data.
- – You do not have a license for the "Evaluation" module.
- ► Contact your administrator.

In the "Samples" window, on the left, you find the three panes "Filters", "Header Data Filter" and "Evaluation". The "Details" pane, situated alongside, provides a graphic view of the sample characteristics.

"Filters" Pane

You set the date and time for the start and end of your evaluation in the "Filters" pane. Once you have selected all the parameters for your evaluation in the "Samples" window, you can start the evaluation via the "Start Evaluation" button.

► Enter a start date (input format: DD.MM.YYYY) and time (input format: HH:MM).

► Enter an end date (input format: DD.MM.YYYY) and time (input format: HH:MM).

► Click [Start Evaluation] or press the Enter key.

▷ The desired evaluation is displayed in the "Evaluation" pane. The associated graphic view is displayed in the "Details" pane.

"Header Data Filter" Pane

You compile the header data for your evaluation in the "Header Data Filter" pane. You can select a previously stored filter from the drop-down list, or save your compiled filter under a name of your choice.

You can select the following header data:
– Department
– Machine ID
– Plan ID
– Product Group ID
– Batch ID
– Order ID
– Product ID
– Characteristic

To compile header data for your evaluation proceed as follows:
▶ In the "Header Data Filter" pane, click the 🔍 icon next to the input field for the respective header data.
▷ A selection window containing various descriptions is displayed.

▶ Activate the check box of your choice.
▶ Click [Apply] and close the selection window.
▷ Your selection is displayed in the "Header Data Filter" pane.

"Evaluation" Pane   The available data for your evaluation are displayed in the "Evaluation" pane in the form of a list.

> ℹ The list view for your evaluation varies according to which columns you selected via the [Show/hide column] button.

You can select a previously stored filter from the drop-down list, or save your compiled filter under a name of your choice.

Advanced Filter Functions

In the "Evaluation" pane, you also have the option to compile additional filters for each column for the purpose of analyzing your data. There is a ▽ filter icon next to every column heading for this purpose. To set up an additional filter for a column, proceed as follows:

▶ Click the ▽ icon in the column of your choice.

▷ A selection menu specific to the column is displayed in the form of a list.

▶ Select the filter of your choice.

▷ The desired view and the filters used are displayed in the "Evaluation" pane.

Custom Filter

To set up a custom filter for the respective column, proceed as follows:

▶ Click the ▽ filter icon in the column of your choice.

▷ A selection menu specific to the column is displayed in the form of a list.

▶ Select the filter (Custom Filter).

▷ The "Custom Filter Selection" window opens.

▶ Program your custom filter using the functions provided by the "Custom Filter Selection" window. Then click [OK].

▷ The filter is saved. The desired view including the user-defined filter is displayed in the "Evaluation" pane.

"Details" Pane

If you click a row in the "Evaluation" pane, the data for the associated record are cumulated and displayed as charts in the "Details" pane. You can preset the display of these charts as described in the chapter "Configuring "SPC@Enterprise Evaluation"" on page 57.

In the upper section of the "Details" pane there are tabs for the available chart types for the selected record. The middle section shows the associated graphic display. The context help described in the chapter "Help and Tool Tips" on page 25 is also available to you in the graphic display.

► In the "Details" pane, click the tab for the chart type of your choice.
▷ A graphic view of the selected chart type is displayed.

You can display the following chart types:

Tab name	Displayed chart type
Mean/Cum. Mean	Chart with mean values or cumulated mean values
Std. deviation	Chart with standard deviations
R/S	Range/sigma chart
Histogram	Histogram
Cum. Mean/R/S/ Histogram	Combined presentation including cumulated mean chart, range/sigma chart and histogram
Mean	Chart with mean values
Xi	Chart with individual values
EWMA/Cum. Mean	EWMA/cumulated mean value

Zoom Graphic Section

You can zoom a section of the graphic:
► Place your cursor on the graphic in the place that you want to zoom.
► Hold down the left mouse button and draw a rectangular section.
▷ A zoomed display of the selected area is shown.

To restore the graphic to its original size:
► Click [Reset].
▷ The graphic is restored to its original size.

Evaluating and Displaying Statistics

ℹ To evaluate and display statistics, you need to have access rights from your administrator to the "Manage Evaluation Statistics" function.

▶ In the "Evaluation" menu icon group, click [Statistics].
▷ The "Statistics" window opens.
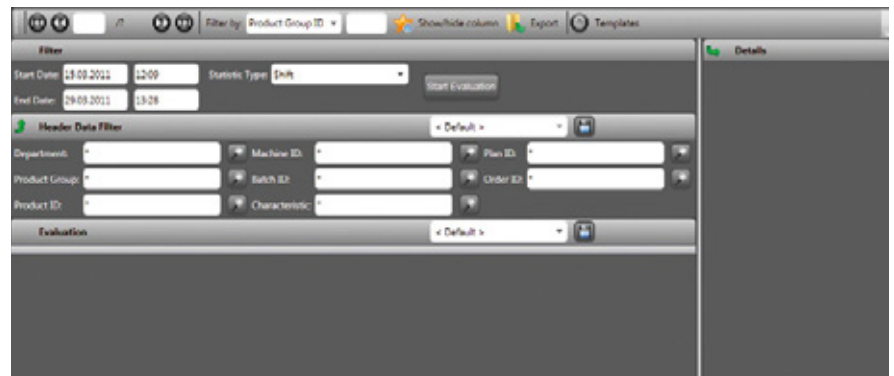
The toolbar for the "Statistics" window gives you the option to filter the displayed data by the following criteria:

Filter name	Filter function
Product Group	The product group to which the product belongs You can define product groups when adding products to the database (see "Configuring the "Evaluation" Module" on page 147).
Product ID	The product that was inspected in the sample
Machine ID	The filling machine from which the sample was taken
Batch ID	The batch to which the product belongs
Characteristic	The test characteristic that was inspected in the sample

▶ In the "Filter by" drop-down list, select the field that you want to use to filter the data.
▶ In the adjacent field, if necessary enter a value by which you also want to filter.
▷ The filtered data are displayed in the "Evaluation" pane.

In the toolbar, next to the filter function, you find the [Show/hide column] and [Export] buttons.
▶ In the toolbar of the "Samples" window, click [Show/hide column].
▷ A selection window with check boxes for each column is displayed.
▶ Compile a selection of the columns that are important for you by clicking the corresponding check boxes.
▶ Close the selection window.

▷ The list view is adjusted in accordance with your selection.
For example, if you clicked "Sample Status", this column is displayed in the list view and you can identify test weighings by the "T" entry.
▶ In the toolbar of the "Samples" window, click [Export].
▷ A selection window is displayed. You can use this to control the export function.
▶ Select a format and enter a file description. Then click [OK].
▷ The data are exported.

You can find the [Templates] button on the far right. You access a selection window with previously stored views and filter templates via the [Templates] button. You can delete stored views and filter templates via this selection window.
▶ In the toolbar for the "Statistics" window, click [Templates].
▷ The "Views / Filters" selection window opens.
▶ Click the "Filters" or "Views" tab.
▷ The available filters or views are listed.
▶ Select the view or filter of your choice.
▶ Delete the view or filter of your choice and close the selection window.
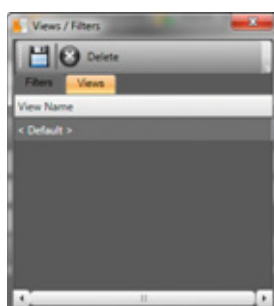
In the "Statistics" window, on the left, you find the three panes "Filters", "Header Data Filter" and "Evaluation". The "Details" pane, situated alongside, provides a graphic view of the sample characteristics.

"Filters" Pane

In the "Filters" pane, first specify the time period for your statistics by entering the start and end dates and times. Next, from the "Statistic Type" selection menu, select a type for your statistics.
You can choose from the following statistic types:
– Shift statistics
– Hourly statistics
– Daily statistics
– Weekly statistics
– Monthly statistics
– Yearly statistics
– Batch statistics

Once you have selected all the parameters for your evaluation in the "Statistics" window, you can start the evaluation via the "Start Evaluation" button.
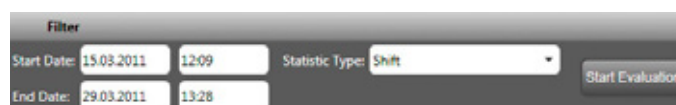
▶ Enter a start date (input format: DD.MM.YYYY) and time (input format: HH:MM).
▶ Enter an end date (input format: DD.MM.YYYY) and time (input format: HH:MM).
▶ Select a statistic type.
▶ Click [Start Evaluation] or press the Enter key.
▷ The desired evaluation is displayed in the "Evaluation" pane.
The associated graphic view is displayed in the "Details" pane.

"Header Data Filter" pane

You compile the header data for your statistical evaluation in the "Header Data Filter" pane. You can select a previously stored filter from the drop-down list, or save your compiled filter under a name of your choice.

You can select the following header data:
– Department
– Machine ID
– Plan ID
– Product Group ID
– Batch ID
– Order ID
– Product ID
– Characteristic

To compile header data for your statistical evaluation proceed as follows:
▶ In the "Header Data Filter" pane, click the 🔍 icon next to the input field for the respective header data.
▷ A selection window containing various descriptions is displayed.

▶ Activate the check boxes of your choice.
▶ Click [Apply] and close the selection window.
▷ Your selection is displayed in the "Header Data Filter" pane.

"Evaluation" Pane

The available data for your statistical evaluation are displayed in the "Evaluation" pane in the form of a list.

> ℹ The list view for your statistical evaluation varies according to which columns you selected via the [Show/hide column] button.

You can select a previously stored list view from the drop-down list, or save your compiled list view under a name of your choice.

Advanced Filter Functions

In the "Evaluation" pane, you also have the option to compile additional filters for each column for the purpose of analyzing your data.

There is a ⧩ filter icon next to every column heading for this purpose.

To set up an additional filter for a column, proceed as follows:

▶ Click the ⧩ filter icon in the column of your choice.

▷ A selection menu specific to the column is displayed in the form of a list.

▶ Select the filter of your choice.

▷ The desired view and the filters used are displayed in the toolbar of the "Evaluation" pane.

Custom Filter

To set up a custom filter for the respective column, there is an option to open another window in the "Evaluation" pane.

To set up a custom filter for a column, proceed as follows:

▶ Click the ⧩ filter icon in the column of your choice.

▷ The selection menu specific to the column is displayed in the form of a list.

▶ Select the filter (Custom Filter).

▷ The "Custom Filter Selection" window opens.

► Program your custom filter using the functions provided by the "Custom Filter Selection" window. Then click [OK].
▷ The filter is saved.
▷ The desired view including the custom filter is displayed in the "Evaluation" pane.

"Details" Pane

If you click a row in the "Evaluation" pane, the data for the associated sample are cumulated and displayed as charts in the "Details" pane. You can preset the display of these charts as described in the chapter "Configuring "SPC@Enterprise Evaluation"" on page 57.
To get a more detailed view of your statistical evaluation in graphic form, the "Details" pane is provided in the "Statistics" window on the right.
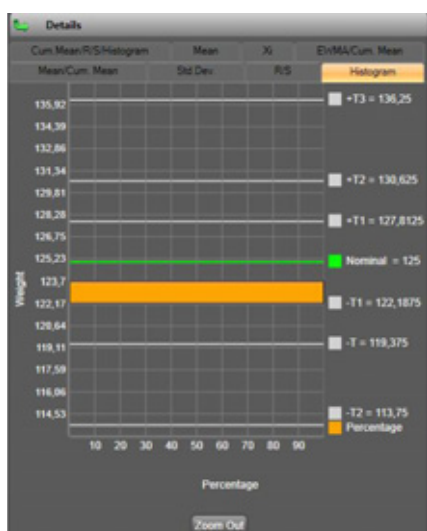
In the upper section of the "Details" pane there are tabs for the available chart types for the selected record. The middle section shows the associated graphic display. The context help described in the chapter "Help and Tool Tips" on page 25 is also available in the graphic display.

► In the "Details" pane, click the tab for the chart type of your choice.
▷ A graphic view of the selected chart type is displayed.

You can display the following chart types:
– Mean value / cumulated mean value (Mean/Cum. Mean)
– Range/Sigma (R/S)
– Histogram (histogram)
– Combined display including cumulated mean value and range/sigma (Cum. Mean/R/S)
– Mean value (mean)
– EWMA / cumulated mean value (EWMA/Cum. Mean)

Zoom Graphic Section

You can zoom a section of the graphic:
► Place your cursor on the graphic in the place that you want to zoom.
► Hold down the left mouse button and draw a rectangular section.
▷ A zoomed display of the selected area is shown.

To restore the graphic to its original size:
► Click [Reset].
▷ The graphic is restored to its original size.

Performing Inspections – Sampling

The terminal application "SPC@Enterprise Sampling" provides you with access to the gauges (e.g. scales).

With "SPC@Enterprise Sampling", you can conveniently set up test stations and perform tests from your PC. You can also set up the appearance and function of the terminal's user interface.

The visual layout of "SPC@Enterprise Sampling" is the same as the layout of the user interface on a terminal, thus allowing you to intuitively comprehend the mode of operation at the test stations.

All base data, e.g. product or machine data relating to your production system that were entered into a database in the main module of "SPC@Enterprise", are available to you, via a server connection, in the terminal application "SPC@Enterprise Sampling" - and hence these data are also available at the test stations.

The measurements recorded on the test stations are stored in the same database and hence you can access these measurements via all "Sartorius ProControl@Enterprise" modules.

You can also display cumulated values based on the measurements of several test stations.

Administrators, QM Personnel and Production Personnel
Administrators, QM personnel and production personnel work with "SPC@Enterprise Sampling".
In order to be able to use "SPC@Enterprise Sampling" as an administrator you need full access to all functions.
In order to be able to use "SPC@Enterprise Sampling" as QM personnel you need the corresponding access rights.
Production personnel may have read-only access to some menus. Menus for which read access was not granted are not displayed.

Requirements

You can work with "SPC@Enterprise Sampling" provided that the following requirements are met:

Requirement	Explanation
Access	If the "Use Access Rights" function was enabled during configuration (see "Configure Terminal" on page 50), you need a user name for "Sartorius ProControl@Enterprise" and the corresponding access rights in order to use the functions of the terminal application "SPC@Enterprise Sampling" .
Configured system	"SPC@Enterprise" must be fully installed and configured by your system administrator.
Base data	All base data, test stations and the basic settings of your choice must be entered and configured in the main module of "SPC@Enterprise".

Options

With the terminal application "SPC@Enterprise Sampling", you can
– Set up the desktop and operation of a test station
– Add and set up gauges
– Manually capture measured values in accordance with the specified inspection plan and work order

Program Overview

The **setup menu** provides access to the menu items that you use to define the basic settings and set up your own working menu.
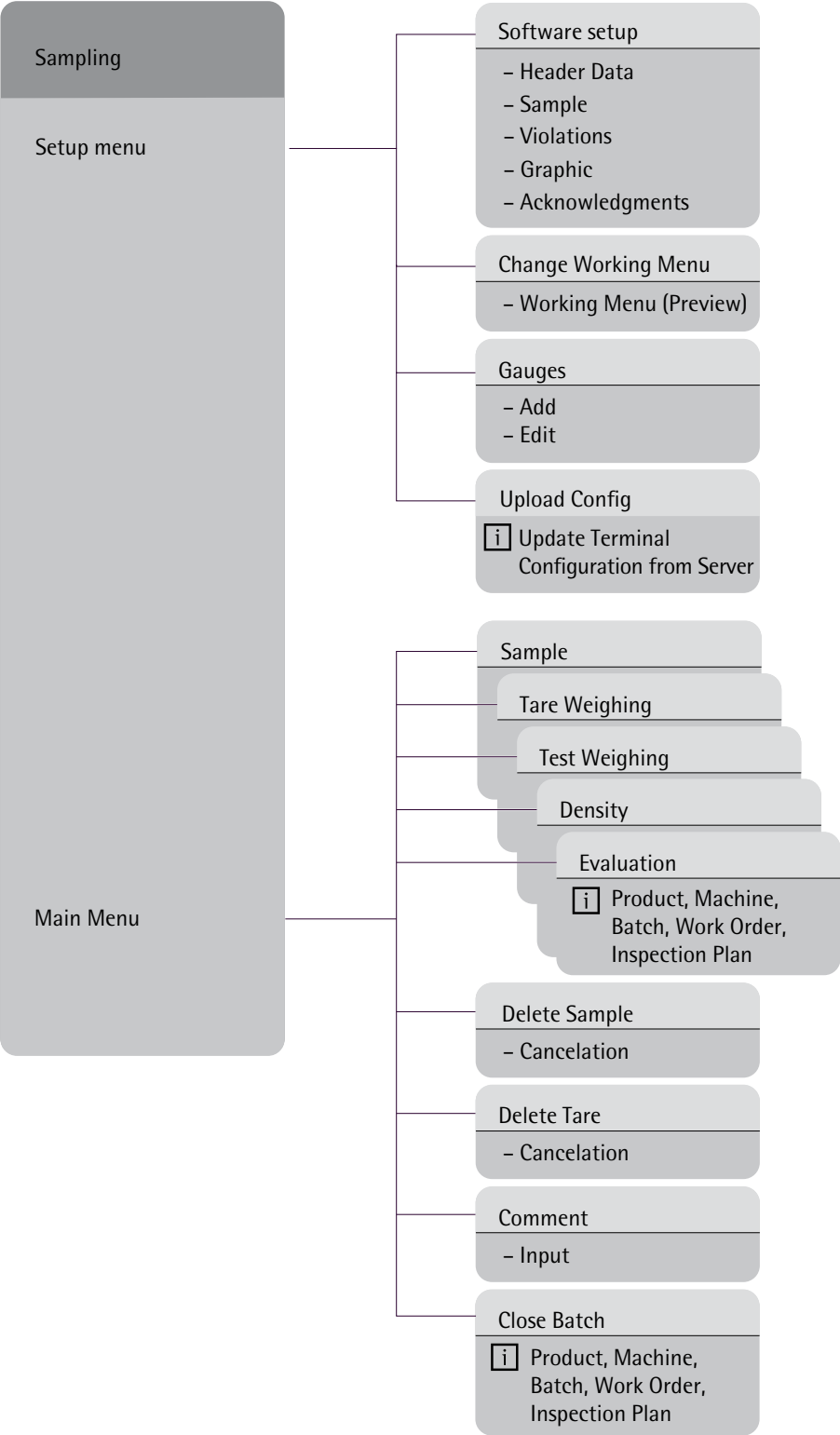The **main menu** gives you direct access to all menu items.
Your own **working menu** is your start screen. The working menu is a customized view of the main menu. It contains only those menu items from the main menu that you selected for your daily work.

Setup Menu

Menu Item		Menu Sub–item	Setting Options
Software setup	page 87	Header Data	Set Up Input of Header Data for Inspections
		Sample	Set Up Sampling Activity
		Violations	Set Up Info Messages for Limit Violations
		Graphic	Set Up Display Options for Graphics at the Test Station
		Acknowledgments	Set Up Authentications for the Test Station
Change working menu	page 15	Working Menu (Preview)	Set Up Working Menu for the Test Station
Gauges	page 51	Edit Gauges	Integrate and Edit Gauges
Upload Config	page 24	Update Data from Server	Apply the Settings that were made in "SPC@Enterprise" to the Current Test Station

Main Menu or Working Menu

Menu Item		Menu Sub–item	Setting Options
Sample	page 18	Input Fields for	Apply Header Data to Samples and Perform Sample
Tare Weighing	page 18	– Product ID	Apply Header Data to Tare Weighings and Perform Tare Weighing
		– Machine ID	
Test Weighing	page 34	– Batch Number	Apply Header Data to Test Weighings and Perform Test Weighing
		– Work Order	
		– Inspection Plan	
Density	page 42		Apply Header Data to Density Determinations and Perform Density Determination
Evaluations	page 43		Apply Header Data to Evaluations and Perform Evaluation
Delete Sample	page 47	– Cancelation	Cancel the Data of a Performed Sample
Delete Tare	page 47		Cancel the Data of a Determined Initial Weight
Comment	page 73	– Input Field	Enter a Comment at a Test Station
Close Batch	page 54	Input Field for	Select and Close an Existing Batch after an Inspection
		– Product ID	
		– Batch Number	

Sampling

Setup menu

Software setup
– Header Data
– Sample
– Violations
– Graphic
– Acknowledgments

Change Working Menu
– Working Menu (Preview)

Gauges
– Add
– Edit

Upload Config
[i] Update Terminal
Configuration from Server

Main Menu

Sample

Tare Weighing

Test Weighing

Density

Evaluation
[i] Product, Machine,
Batch, Work Order,
Inspection Plan

Delete Sample
– Cancelation

Delete Tare
– Cancelation

Comment
– Input

Close Batch
[i] Product, Machine,
Batch, Work Order,
Inspection Plan

Starting and Quitting "SPC@Enterprise Sampling"

i In order to start and quit the terminal application "SPC@Enterprise Sampling", you need to have access rights from your administrator to the "Sampling – Sampling" and "Sampling – End" functions.

Starting the Terminal Application "SPC@Enterprise Sampling"

▶ Double-click the "SPC@Enterprise Sampling" icon on your desktop or select the terminal application in your Windows > Start menu of your PC.

▷ The terminal application "SPC@Enterprise Sampling" starts in a separate window.

▷ After the initial installation a reference to the demo version is displayed (see image). You can find further information about the demo version in the installation manual.


```
This is a demo version for a module 'Sartorius.SAF.Sampling'

Licence System Code
  - Systemcode (1) = 'E30A5467'
  - Systemcode (2) = 'F74B2A26'
  - Systemcode (3) = '7C194460'

                 Ok
```
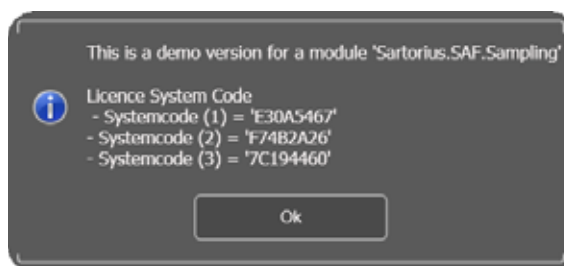
▶ Acknowledge the dialog box with the reference to the demo version by clicking [OK] to continue.

▷ The terminal application connects to the server and loads the current settings for your test station. Your working menu is displayed (see "The Working Menu - Your Start Screen" on page 164).

Working Menu Not Displayed? If your working menu is not displayed immediately the test station is being initialized:

▷ "Station Initialization" starts automatically (see also "Display Section" on page 163).

If no access restrictions were set up for the use of the terminal application:

▷ As the sole user of the installed version, you can immediately access all menu items and work with "SPC@Enterprise Sampling".

Login? If access restrictions were set up for the use of the terminal application:

▶ You have to log in first (see next chapter).

▷ Multiple users can work with this installation.

Quitting the Terminal Application "SPC@Enterprise Sampling"

To immediately quit the terminal application from any menu:

▶ Close the current window.

To immediately quit the terminal application from the working menu:

▶ Click [Quit program].
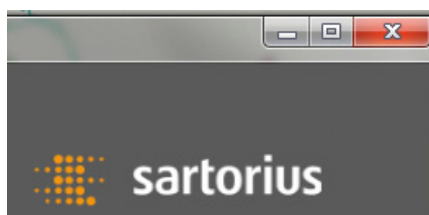
Logging In and Out

To log in, proceed as follows:

▶ Enter your user name and password in the "Login" dialog box. You get your user name and password from your administrator.

▶ Click [OK] to log in.

▷ You are logged in with your user name. Either the station initialization screen or the start screen (your working menu) is displayed. You see the menus that your administrator has granted for your user name. Your access to the functions described below may be restricted. For more information, please refer to the chapter "Graphic User Interface" on page 163.

ℹ️ If you click [Cancel], you quit the program and have to restart "SPC@Enterprise Sampling" and log in again.

Multiple Users

You can only log in multiple users and work on a PC on which "SPC@Enterprise" is installed if access restrictions were configured.

If you have set up various users with various permissions in your company, you should use the logout function to protect your settings against unauthorized or inadvertent changes.

To log out:

▶ In the navigation section of the working menu, click [Logout].
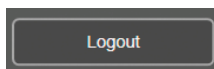
If a confirmation was not configured for the logout (see "Configuring Test Stations" on page 122):

▷ You are logged out. The application remains open. The "Login" dialog box is displayed. Another user can now log in.

If confirmation was configured for the logout (see "Configuring Test Stations" on page 122):

▷ The "Do you want to logout?" dialog box is displayed.

▶ Confirm the message with [Yes].

▷ You are logged out. Another user can now log in.
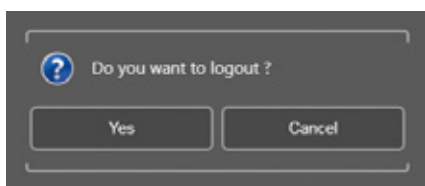
ℹ️ Alternatively you can also quit the terminal application. You are automatically logged out if the application is ended.

Graphic User Interface

Display Section
Input Section
Navigation Section
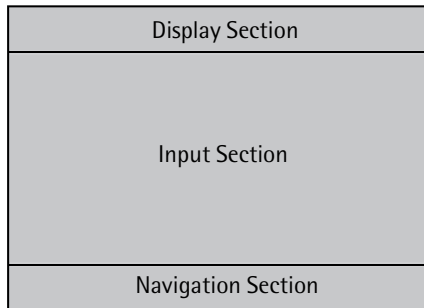
The terminal application's graphic user interface consists of three sections. These three sections can be found in all of the views that you can open in the terminal application:
– Display section
– Input section
– Navigation section

Each section has different functions. The sections in detail:

Display Section with Status Information

The upper section of the user interface is for display purposes only and no data can be entered here.
The date and time are shown on the left of the display section together with the display for the menu that you are currently working with. "TERMINAL INFORMATION" is displayed in the middle of the display section.
To display the status information:
► In the display section, click "TERMINAL INFORMATION".

> **- TERMINAL INFORMATION -**

▷ The test station that you are logged in to, the user name and the current version number of the terminal application "SPC@Enterprise" are displayed.

> **Station:1 Benutzer:sartogb**
> **V 1.0.13.0**

► Click again to go back to the TERMINAL INFORMATION display.

Input section

The input section is directly below the display section. In the input section, depending on the menu (setup menu, main menu or working menu) and your access rights, you can select menu items, make selections and input data.

Navigation section

All buttons for switching between menus, confirmations and quitting the terminal application can be found in the lower toolbar of the graphic user interface.

It may be that only the [OK] button is displayed; however up to five buttons may also be available for selection in the navigation section.

The Working Menu – Your Start Screen

The **working menu** is also your **start screen.** It is displayed automatically after the application starts. The working menu is a customized view of the main menu. It contains only selected menu items from the main menu. In the example shown here, only the "Sample" menu item is displayed in the working menu:
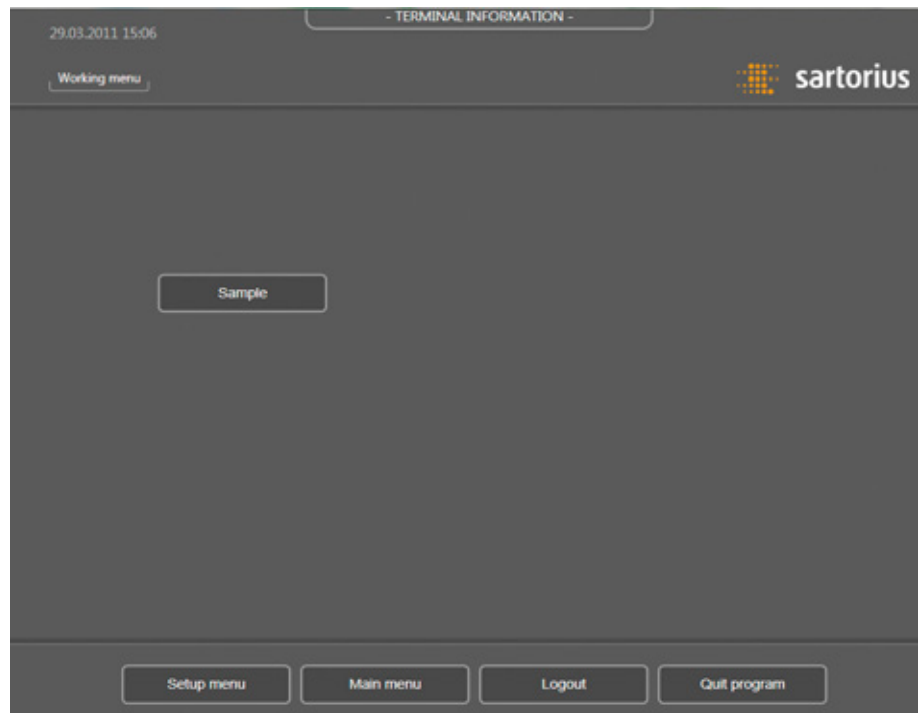
Working Menu Starts Automatically

The start screen / your working menu is displayed if you have started the application and there is a connection between your test station and the server.
– "Working menu" is displayed in the display section. The user name ("User") of the currently logged in user and the test station ("Station") currently in use are displayed in "Terminal Information".
– From the working menu, with one click you can open the menu items listed in the input section and perform an inspection, e.g. in this case click [Sample] (see also "Performing, Evaluating and Deleting Inspections" on page 189).
– You can switch to other menus by clicking [Main menu] or [Setup menu] or quit the program by clicking [Quit program].
– You can customize your working menu / start screen so that you can see and select the functions that you need for your work process (see "Setup Menu: Changing the Menu Itemof the Working Menu" on page 178).

Working Menu Not Displayed?

If the working menu is not immediately displayed, your test station is not yet connected to the server. To make this connection:
▶ Proceed as described in the chapter "Integrating a Test Station - Station Initialization" on page 165.

Exit the Working Menu and Quit

▶ Click [Main menu] or [Setup menu] to switch to these menus, or quit the program by clicking [Quit program].

Integrating a Test Station – Station Initialization

Once all modules of "Sartorius SPC@Enterprise" have been set up in the network and the available gauges (e.g. scale with terminal) have been connected, test stations are created and set up in the main module of "SPC@Enterprise" (see "Configuring Test Stations" on page 122).

With the "SPC@Enterprise Sampling" terminal application you work on such a test station. Hence you can also set up a test station using the terminal application "SPC@Enterprise Sampling".

However, each created test station, regardless of whether it was set up in the main module or in the terminal application, first has to be initialized in order for "SPC@ Enterprise Sampling" to be able to find and address this test station. Reinitialization of the modified or newly added test station is also required in the case of changes or additions to the production process.

Each time the application starts, "SPC@Enterprise Sampling" automatically searches for the ID and other data of an installed test station.

Station initialization

While the application automatically searches for the most recently installed test station, the message that you are in the "Station Initialization" menu is displayed.

If "SPC@Enterprise Sampling" fails to find a test station, either because no test station is available or installed, or because due to changes it is unable to find the most recently installed test station, a message to restart the search is displayed in the input section.

Station could not be initialized !
Click button <Restart> to try again.
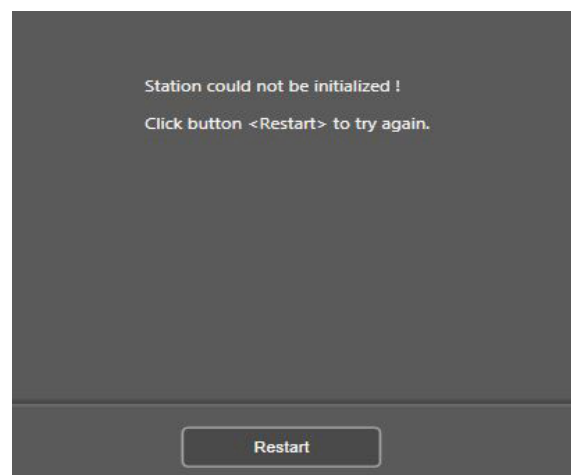
Restart

▶ Click [Restart] to repeat the search and station initialization.
▷ The initialization is repeated.

After initialization
– Either a test station is automatically found, due to the fact that, in the meantime, a station was assigned in the main module, and you can immediately work with the terminal application
 or
– The "Available Stations" view for selecting, adding or editing a test station is displayed:
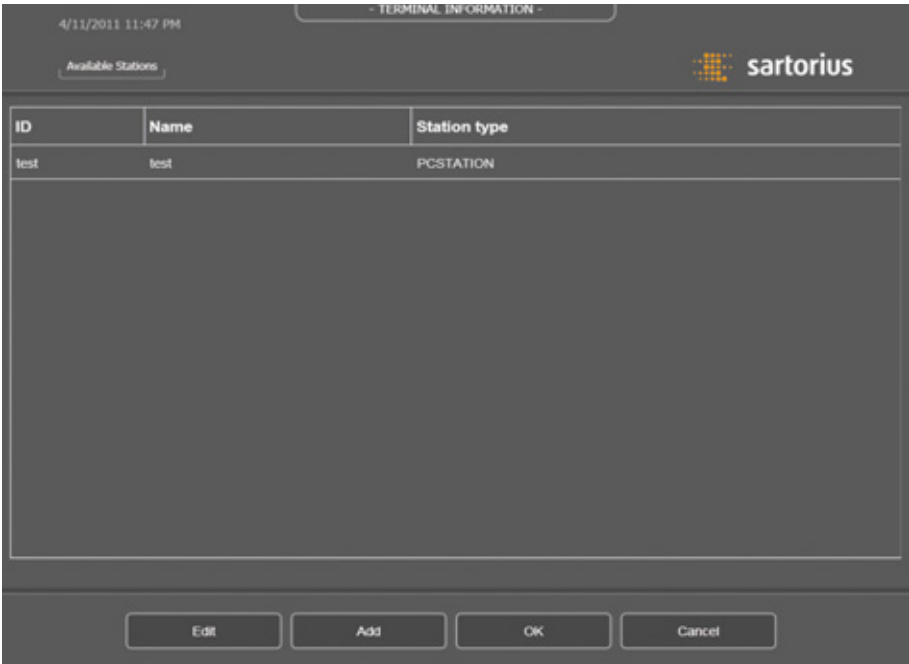
Available Stations ▶ Check whether your desired test station is displayed in the list of available stations.

Select Station and Apply If the desired station is displayed in the list:
▶ Click the corresponding row to select the test station.
▷ The row is highlighted as shown in the illustration above.
▶ Click [OK] to initialize the station.
▷ The selected station is initialized. The working menu is displayed. You can check the status in the display section (see "Display Section with Status Information" on page 163)

Add Station If the desired station does not appear in the list:
▶ Click [Add].
▷ Data fields for the ID and name of the station are displayed.

▶ Enter the ID and name of the test station, e.g. "003" and "Test Station 3" or "Filling". Please note that the test station ID must be unique and may only be allocated once.

▶ Confirm your input by clicking [OK].
▷ The test station is created and displayed in the list of available stations.
▷ Once created, you can initialize a test station (see "Integrating a Test Station - Station Initialization" on page 165).

▷ You can set up a created test station (see "Edit Station" on page 167).

▷ You can not delete a test station created in the terminal application from within the terminal application. The name of the test station and the ID are stored in the database and can only be deleted via the main module (see "Configuring Test Stations" on page 122).

ℹ You can only delete incorrectly or inadvertently created test stations in the "Stations" menu of the main module of "SPC@Enterprise" (see "Configuring Test Stations" on page 122).

Edit Station

▶ In the navigation section of the "Available Stations" view, click [Edit].

▷ The software setup for configuring the test station is displayed (see next chapter, menu item "Software setup").

The Setup Menu

> ℹ️ In order to be able to make settings via the "Software setup" menu item, you need to have access rights from your administrator to the "Sampling - Software Setup" function.

Open the Setup Menu
▶ In the navigation section of the working menu, click [Setup menu].
▷ The setup menu is displayed. "Setup" is displayed in the display section. Four menu items are available for selection in the input section. You can save your settings and exit the menu by clicking [OK] in the navigation section.
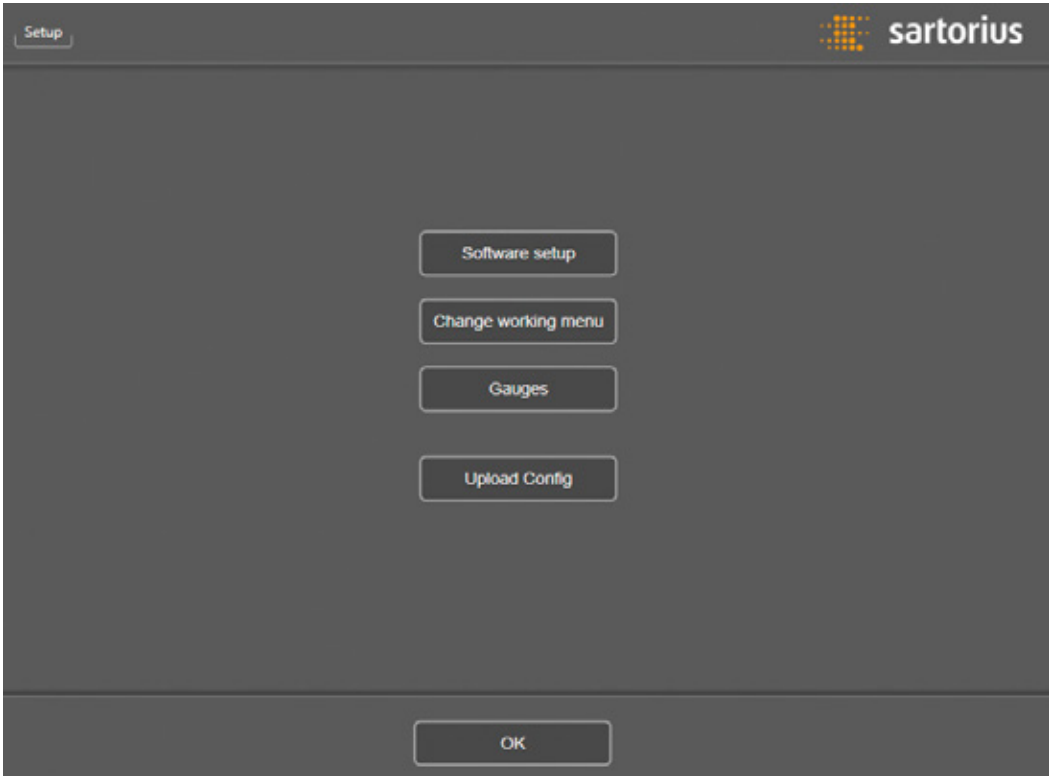
Menu item and button in the setup menu	Description see	Function
Software setup	page 87	Basic settings
Change working menu	page 15	Set up the working menu on the terminal
Gauges	page 51	Assign gauges
Upload Config	page 24	Update data

> ℹ️ The settings that are made in the terminal application via the "Software setup", "Change working menu" and "Gauges" menu items can also be made in the main module (see "Configuring Test Stations" on page 122 and "Entering, Changing or Deleting Gauge Data" on page 102).

Exit the Setup Menu
To switch from the setup menu back to the working menu:
▶ In the navigation section, click [OK].
▷ The working menu is displayed.

Setup Menu: Menu Item "Software Setup"

> **ℹ** In order to be able to make settings via the "Software setup" menu item, you need to have access rights from your administrator to the "Sampling - Software Setup" function.

You can make the following basic settings via five tabs in the "Software setup" menu item:

Tab	Setting options
Header data	Configure header data input for inspections
Sample	Configure sampling
Violations	Configure acknowledgments for violations
	Display info messages
Graphic	Configure graphics in the terminal application
Acknowledges	Set up authentications for the test station

"Header Data" Tab

Via the "Header Data" tab, you can specify:
– the header data inputs that a user has to make, or is allowed to make, at the user station, in addition to the absolutely essential input of the product;
– the sequence in which the header data are displayed for inputting at the user station.

For instance, if you are setting up a working menu for batchless production and hence there is no need to enter a batch description, it makes sense to not make it compulsory to enter a batch description.

Nonetheless, you can set up the header data in such a way that it is possible to enter a batch description, if necessary.

To configure the header data, proceed as follows:
► Open the setup menu and, in this menu, select "Software setup".
► In "Software setup", select the first tab, "Header data".

With Authentication

▷ The "Input sequence" and "Input fields" sections are displayed. If you are using the terminal application with authentication, the user is displayed in the header data and you can configure the user inputs here:

► In "Input sequence", enable the "Enter user ID every time (no default)?" check box.

Without Authentication   ▷ If you are using the terminal application without authentication, no user is displayed in the header data and hence the configuration for inputting a user is omitted:

▶ In "Input sequence", specify the header data that you want the input to begin with and the sequence in which you want the header data to appear.

Select Header Data   ▶ Click the arrow pointer ⬇ next to "Start with" to open the drop-down list containing the header data.
▷ The drop-down list is displayed.

▶ Click to select an item in the drop-down list and apply it to the "Start with" field.

You can specify the further sequence with the buttons underneath "Start with":
▶ Click "Products", "Machines", "Batches", "Work orders" or "Plans" to select the item of your choice.
▷ The selected item is highlighted.

Sort Input Sequence   ▶ Now use the Up/Down buttons ▲▼ to move the highlighted item up or down.
▶ Click one of the next tabs of the setup menu or click [OK] to save your settings.

Enable / Force Input
You can specify which entries are compulsory and which are possible. The header data input "Product" is required and can not be deselected.
▶ By clicking, tick ☑ the items in the first column for which you want to allow an input (enable), and leave the second column blank.
▶ Place a tick ☑ in both columns to force an input.

Example of a user station with all available header data

All Available Header Data
If, on the "Header data" tab, you selected all available header data, these header data are displayed as input fields on the test station:

Sample Tab
Via the "Sample" tab, you specify the parameters according to which inspections such as samples, tare weighings and test weighings are performed and which inputs are possible at the user station. To configure the parameters to be included in an inspection, proceed as follows:
▶ Open the setup menu and, in this menu, select "Software setup".
▶ In "Software setup", select the second tab, "Sample".
▷ The input section for configuring the parameters is displayed.

Other ▶ To enable the parameters of your choice, click the corresponding check boxes.

Parameter	Effect if the parameter is enabled
Include air buoyancy?	The air buoyancy of the sample is calculated.
Display deviation from target?	Instead of the weight value, "Sampling" displays the deviation from the target value.
Store weight value automatically?	"Sampling" automatically stores weight values from the gauge if the gauge is connected to the terminal. The manual input of weight values is omitted.

Interaction ▶ To enable the interaction of your choice, click the corresponding check boxes.

Interaction	Effect if the interaction is enabled
Allow manual input?	Measured values can be input manually (terminal application and touch screen)
Allow density input?	Density values can be entered manually on the terminal (appropriate if the density of the products can change during production)
Confirm/check current density before sampling?	Before sampling, "Sampling" asks the user if a previously determined density value is to be used for calculation purposes, or if density is to be redetermined (appropriate if the density of the products can change during production).
Touch screen?	Touching the screen is understood as an input (required if the terminal has a touch screen)

Enter Filling Head ID ▶ Click the arrow pointer ⌄ to open the "Enter number of filling head" drop-down list.
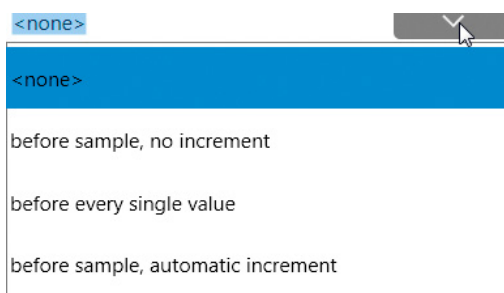
Filling Head IDs

Filling heads are components of a filling machine. You can enable or disable the input of filling head numbers (see "Filling heads" in the chapter "Performing the General System Configuration" on page 47).
▶ Click one of the following options to enable the option. This can be used to adjust the measurements to the sampling type.

Option	Effect
< none >	The user is not asked to enter a filling head number.
Before sample, no increment	The user is asked to enter a filling head number before each inspection. All measured values for the packaged products or packages that are successively checked in the inspection are assigned to this filling head number. The filling head number is not automatically incremented.
Before every single value	The user is asked to enter the filling head number to which the individual measurement relates before every single measurement.
Before sample, automatic increment	The user is asked to enter a filling head number before each inspection. All measured values for the packaged products or packages that are successively checked in the inspection are assigned to this filling head number. The filling head number is automatically increased by the value of 1 before the next inspection.

Tare the Scale

You can now select when your scale is to be tared.
▶ Click the arrow pointer ⌄ to open the "Tare the scale (FPC)" drop-down list.
▷ The "Tare the scale (FPC)" drop-down list is displayed.

Before sample ⌄

Before sample

Before single value
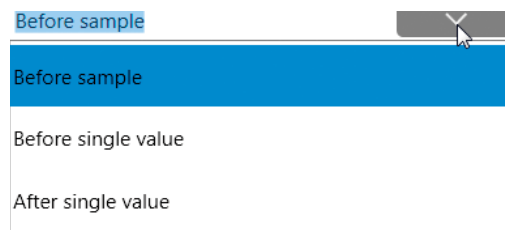
After single value

▶ Click the option that best suits the design and mode of operation of your scale:

Option	Effect if the input is applied
Before sample	A connected scale is tared only once before each sample (or test weighing)
Before single value	A connected scale is tared before each individual measurement
After single value	A connected scale is tared after each individual measurement

"Violations" Tab   Via the "Violations" tab, you specify the events for which "SPC@Enterprise Sampling" is to display a violation message. If authentication is set up for "Sampling", here you additionally specify if the violation message has to be confirmed with an authentication (input of user name and password) before it is possible to continue working.
To configure the violation messages in "Sampling", proceed as follows:
▶ Open the setup menu and, in this menu, select "Software setup".
▶ In "Software setup", select the third tab, "Violations".
▷ The input section for configuring the violations is displayed. In this example, authentication is enabled.

Show Info Message   ▶ Click to place a tick ☑ in the field next to the event for which you want to have violation information in the terminal application:

Event	Violation information is displayed if a measurement ...
-T2	Falls below the absolute lowest tolerance limit
-T1	Falls below tolerance limit 1
-T	Falls below the lower tolerance limit
+T1	Exceeds upper tolerance limit 1
+T2	Exceeds upper tolerance limit 2
+T3	Exceeds upper tolerance limit 3

Event	Violation information is displayed if an inspection ...
Std.dev. > Std.max.	Shows a standard deviation that is greater than the maximum permissible standard deviation
Cum. Std.dev. > Std.max.	Shows a cumulated standard deviation that is greater than the maximum permissible standard deviation
Cum. Mean Value < Nominal	Fails to satisfy the legal requirements for the control of filling levels because the cumulated mean value across all samples is less than the nominal value

▶ Activate "Disable password input (inform only)" if you want to use "Sampling" with authentication and still dispense with the need to enter the user name and password for each violation message.

"Graphic" Tab   Via the "Graphic" tab, you can specify the appearance of the graphics that you see in the terminal application.

You can activate a grid background, select statistic types (periods for statistics) and adjust the scaling of the Y-axis.

▶ Open the setup menu and, in this menu, select "Software setup".

▶ In "Software setup", select the fourth tab, "Graphic".

▷ The input section for configuring the graphics is displayed.

Grid   ▶ Activate the option of your choice with a tick ☑:

Option		Effect
Grid on	enabled ☑	Graphics are displayed with grid
	disabled	Graphics are displayed without grid

Statistics Type   ▶ Select the option of your choice.

Option	⌄	Effect
Statistics type	None	Intervals for the charts are freely configurable (in hours). You have to enter the period for statistics in the chart: ▶ In the "No. of hours for mean value chart" field, enter the number of hours for which you want the measured values be displayed in the chart.
	Batch statistics	Chart is displayed for each batch
	Hourly statistics	Hourly chart is displayed
	Shift statistics	Chart is displayed for each shift
	Daily statistics	Daily (24h) chart is displayed

Scaling   You can control the scaling of the Y axis on the chart with each of four settings. Here, in the "Graphic" tab, you can configure two different types of graphic, the standard graphic and the toggle graphic (see also "Step 5 - View Evaluations / Graphics" on page 200).

Scaling for Mean Value Chart

Graphic type ▾	Effect
In relation to tolerance limits	The Y axis is scaled in the range between -T2 and +T3.
Nominal value +/-	The Y axis is scaled according to the value that you enter in the "Value" field. ► In the "Value" field, enter the value according to which you want the Y axis to be scaled.
Nominal value +/- (percent)	The Y axis is scaled according to the percentage that you enter in the "Value" field. ► In the "Value" field, enter the value according to which you want the Y axis to be scaled.
Inner limits	The Y axis is scaled in the range between -T1 and +T3.

"Acknowledges" Tab

Via the "Acknowledges" tab, you can set up whether an employee has to confirm an action in the terminal application, by way of authentication with user name and password, before work can be started or continued.

► Activate a field with a tick ☑ if you want to allow certain actions to be performed only after authentication by authorized employees.

► Disable a field if you want the action to be performed at the test station without authentication.

For example, if you activated the "Sample" field in the "Acknowledges" tab, the dialog box shown alongside is displayed each time before sampling is performed at the test station.

A sample can only be performed after authentication, e.g. by entering a user name and password.

► Open the setup menu and, in this menu, select "Software setup".

► In "Software setup", select the "Acknowledges" tab.

▷ The input section for the terminal operation (confirmations and acknowledgments) is displayed.
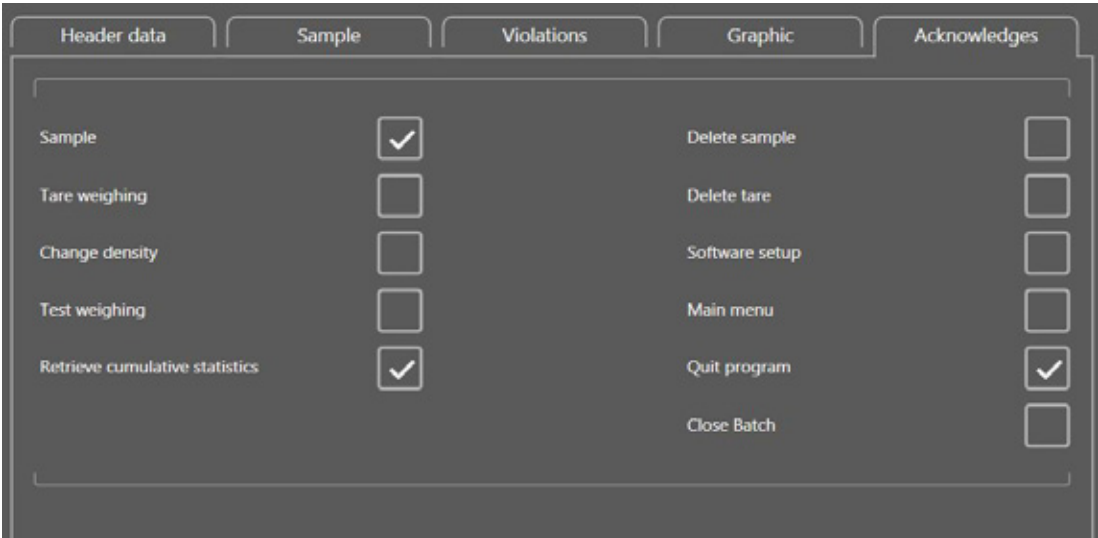
Acknowledge Enabled ▶ Enable the following options with a tick ☑ if you want the respective action to require authentication.

Option	Effect if acknowledgment is enabled
Sample	Without user ID, samples can be configured but not implemented; authentication is required for implementation.
Tare weighing	Without user ID, tare weighings can be configured but not implemented; authentication is required for implementation.
Change density	Density can only be changed after authentication. It is appropriate to enable this function if you want to prevent an unauthorized or inadvertent change of the density value.
Test weighing	Without user ID, test weighings can be configured but not implemented; authentication is required for implementation.
Retrieve cumulated statistics	The (statistics) evaluation can only be displayed after authentication.
Delete sample	A sample can only be canceled after authentication.
Delete tare	An initial weight can only be canceled after authentication.
Software setup	The setup menu can only be called up after authentication. This setting is appropriate if you want to prevent unauthorized or inadvertent changes.
Main menu	The main menu can only be called up after authentication. This setting is appropriate if you only want to allow authorized employees to have full access to all inspections.
Quit program	You can only quit the program after authentication. This setting is appropriate if you want to prevent unauthorized or inadvertent exiting of the program at the test station.
Close batch	A batch can only be closed after authentification. Closed batches are immediately blocked for further inspections. This setting is appropriate if you want to prevent the unauthorized or inadvertent closing of a batch.

Setup Menu: Menu Item "Change Working Menu"

You can set up the user interface of your working menu and specify which menu entries are displayed in the working menu and the order in which they appear. The working menu will be displayed as you set it up here, both in the "SPC@ Enterprise Sampling" terminal application and at the terminal.
▶ Open the setup menu and, in this menu, select "Change working menu".

"Change working menu" Menu Item

▷ The preview of the working menu and the choice of available menu entries for the working menu are displayed in the input section.
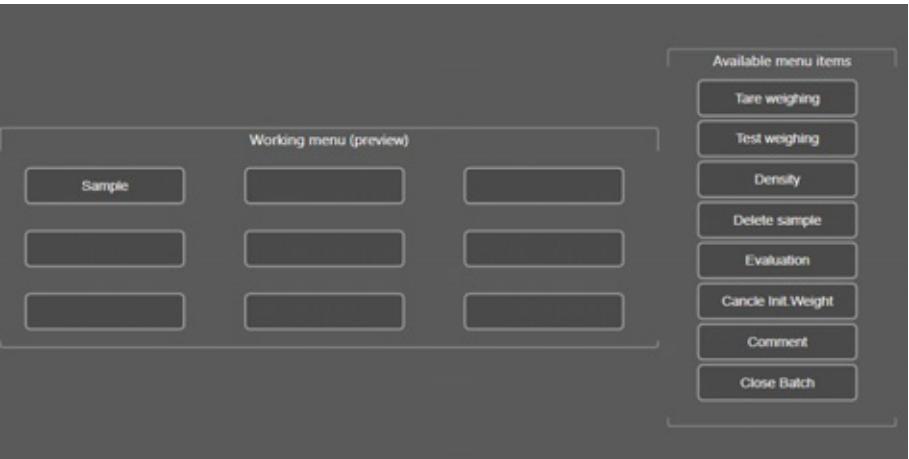
Apply Menu Items to the Working Menu

Select and Highlight

▶ In the preview, first select the field and the position in which you want your new menu item to appear in the working menu.

Once you have decided on your chosen position, you then have to select a free field in the preview:
▶ Click the position in which you want your new menu item to appear in order to select the field. In this example, the free field next to the existing field ("Sample") is selected.
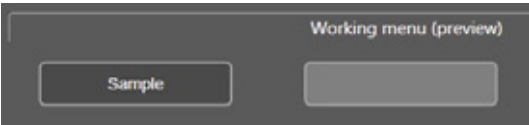
▷ The selected field is highlighted as shown in the above illustration.
▶ Now, from the list of available menu items, select the menu item that you want to appear in the highlighted position, e.g. "Test weighing". In the "Available menu items" list, click the menu item of your choice.
▷ The menu item is displayed in the preview.

If you want to remove an item from the preview:

▶ In the preview, click the menu item that you want to remove.

▷ The menu item is removed from the preview on the left and is displayed again in the list of available menu items on the right.

▶ Repeat these steps until the preview contains all the items of your choice.

ℹ You can occupy a maximum of 9 positions with the available menu items.

Save Working Menu

▶ Click the [Cancel] button to return to the setup menu without saving the entries.

▶ Click the [OK] button to save the entries and return to the setup menu.

▷ The working menu is saved in the preview. You are in the setup menu.

Apply Changes

▶ Exit the setup menu by clicking [OK] in order to apply your changes to the user interface of the working menu.

▷ You are now in the current working menu. Your entries are saved and displayed when you open the application or log in again.

Setup Menu: Menu Item "Gauges"

> Data and details about gauges, e.g. measuring range and accuracy, have to be added in the main module (see "Entering, Changing or Deleting Gauge Data" on page 102).

These gauge data are also available to you via the database in the terminal application "SPC@Enterprise Sampling" ("Gauge type" sub-menu in the "List of logged gauges"). Likewise, created gauges are assigned to a test station in the "Stations" menu in the main module of "SPC@Enterprise".

However, you can also assign these gauges via the "Gauges" menu item in the terminal application.

The other settings for your gauge depend on whether you enter measured values manually or whether the gauge is connected via RS-232 and measured values are transmitted automatically.

If you want to assign a gauge to your test station and configure the gauge, proceed as follows:
▶ Open the setup menu and, in this menu, select "Gauges".
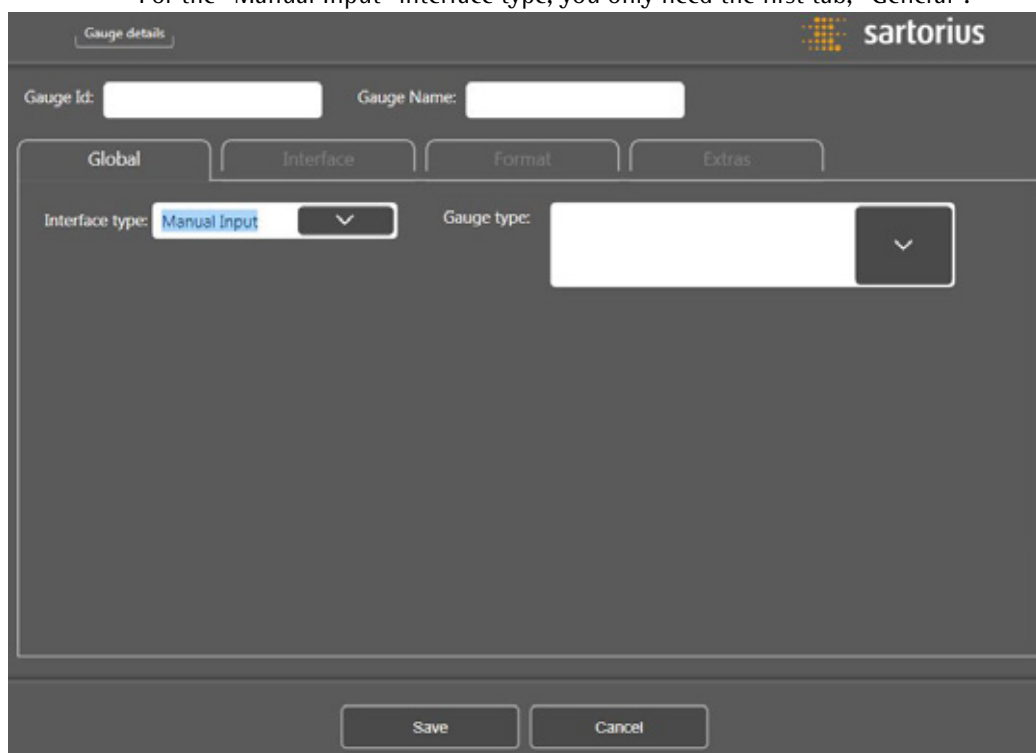
List of Included Gauges   ▷ The list of included gauges is displayed.

The gauges that were assigned to this test station are listed here.

ID	Name	Interface type
Density	Density	COM1:
Weight	Signum 6	COM1:
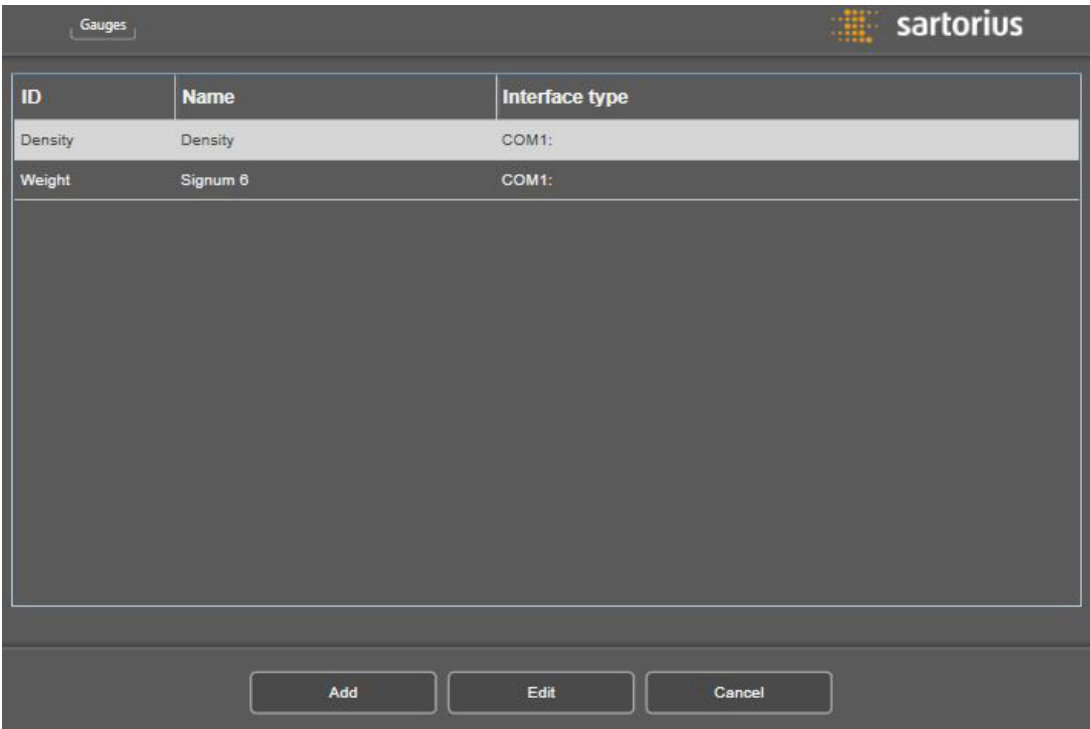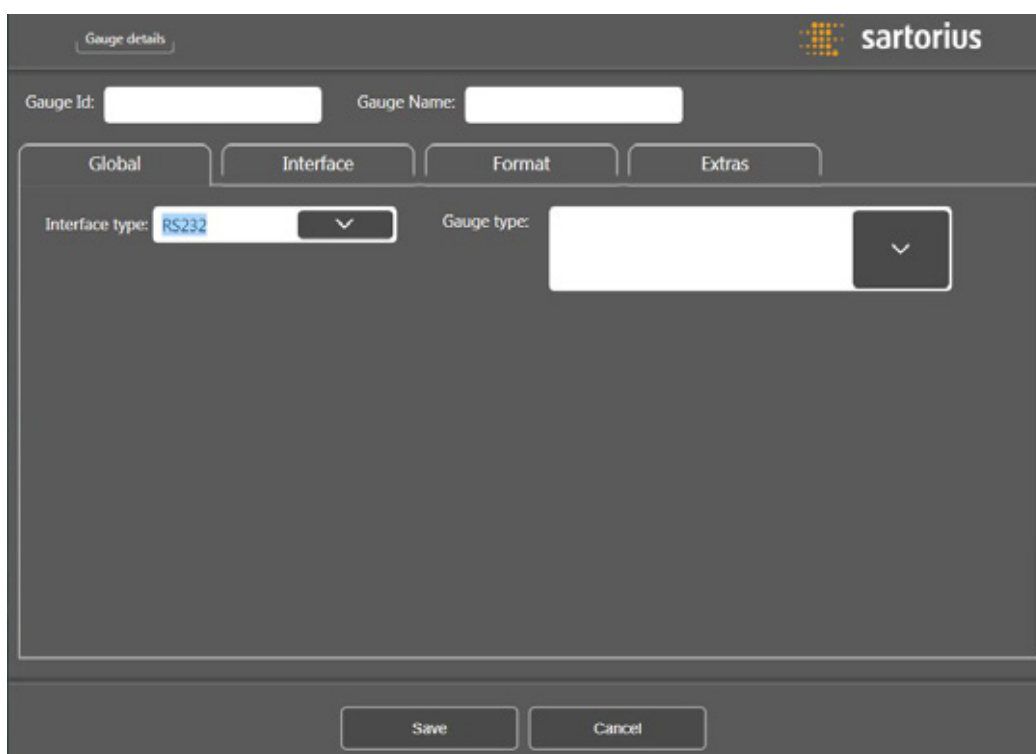
Add Gauge or Edit   ▶ If you want to add a gauge to the list, in the navigation section click [Add].
▶ Double-click on a gauge that you want to edit, or highlight it and click [Edit] in the navigation section.

Gauge Details   ▷ The "Gauge Details" view, which has four tabs, is displayed.

For the "Manual Input" interface type, you only need the first tab, "General".

For the "RS-232" interface type, you also need the other tabs, "Interface", "Format" and "Extras":

"Manual Input" Interface Type

▶ Configure the gauge using the "General" tab only.

Input field	Meaning
Gauge ID	Unique identification of the gauge, e.g. "001" or "Industrial Scale 6 kg"
Gauge name	Meaningful description of the gauge, e.g. "Scale" or "Density Input"
Interface type	Type of information transmission, in this case: "Manual input"
Gauge type	These gauge details were entered in the main module of "Enterprise". ▶ Select the gauge type that you use at your test station.

"RS–232" Interface Type

▶ Configure the gauge via the four tabs, "General", "Interface", "Format" and "Extras".

Input field	Meaning
Gauge ID	Unique identification of the gauge, e.g. "001" or "Industrial Scale 6 kg"
Gauge name	Meaningful description of the gauge, e.g. "Scale" or "Density Input"
Interface type	Type of information transmission, in this case: "RS-232"
Gauge type	These gauge details were entered in the main module of "Enterprise". ▶ Select the gauge type that is connected to your inspection station.

"Interface" Tab

▶ Refer to the operating manual for your gauge with regard to your entries in the following data fields.

Input field	Selection range
Port no.	Free input
Baud rate	300 to 230400 in 14 adjustment steps
Parity	– None – Odd – Even – Identifier – Space
Handshake	– None – On/Off – RTS – RTS On/Off
Data bits	– 7 – 8
Stop bits	– 0 – 1 – 2
DTR enabled	Enable or disable "Data Terminal Ready" control line
Enable RTS	Enable or disable "Request To Send" control line

"Format" Tab   ▶ Refer to the technical data for your gauge with regard to your entries in the following data fields.

> ℹ You can only enter a maximum of 11 characters per data field. If you enter more than 11 characters in a data field or enter implausible data, the data field has a red border. You can not save.

Input field	Selection range
String length	Freely selectable
First position of the measured value	Freely selectable
Last position of the measured value	Freely selectable
First position of the unit	Freely selectable
Last position of the unit	Freely selectable
Number of end characters	Freely selectable
End characters	Freely selectable
Record no.	Freely selectable

"Extras" Tab   ▶ Refer to the technical data for your gauge with regard to your entries in the following data fields.

Input field	Selection range
Create decimal places	Freely selectable
Factor	Freely selectable
First position for OK identifier	Freely selectable
First position for OK identifier	Freely selectable
Identifier for OK value	Freely selectable

Delete a Gauge from the List   If you added a gauge by mistake and want to delete it from the list of available gauges:
▶ Delete the entry via the "Gauges" menu in the main module of "SPC@Enterprise" (see "Entering, Changing or Deleting Gauge Data" on page 102). To perform this action, you need the corresponding access rights for the main module.

Save Gauge   When you have completed your settings:
▶ Save your settings by clicking [Save].
▷ If you made incomplete or erroneous settings, your settings are not saved and a dialog box is displayed with the message that your data are incorrect.
▶ Close the dialog box by clicking [OK] and correct your settings.
▶ Save the corrected settings.
▷ The gauge is displayed in the list of available gauges. The gauge can now be used for inspections.

Setup Menu: Menu Item "Upload Config"

In order for the terminal application "SPC@Enterprise Sampling" to always be able to access the most up-to-date data and settings that were entered in the main module, you have to synchronize the terminal application with the application "SPC@Enterprise" after each inspection-related change of the data.

"Upload Config" Menu Item
  ▶ Open the setup menu and, in this menu, select "Upload Config".
  ▷ The "Would you like to load the terminal configuration from the server?" dialog box is displayed.
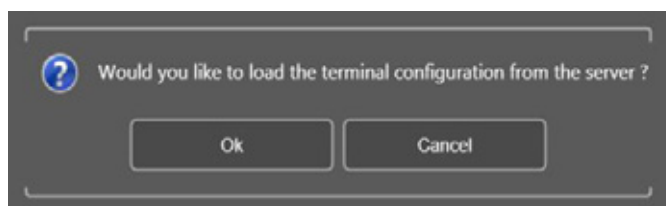
Refresh Configuration
  ▶ Click [OK] if you want to apply the current settings from the database to your test station.
  ▷ The dialog box is closed, the current settings are applied and a confirmation of the successful synchronization is displayed.
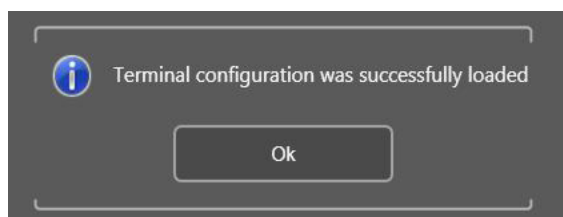
  ▶ Close the confirmation by clicking [OK].
  ▷ You return to the setup menu.

Do Not Refresh Configuration
  ▶ In the "Would you like to load the terminal configuration from the server?" dialog box, click [Cancel].
  ▷ The dialog box is closed. No data were transferred from the server. You return to the setup menu.

The Main Menu

ℹ️ To open the main menu, you need to have access rights from your administrator to the "Sampling - Main Menu" function.

Open Main Menu

The main menu gives you direct access to all menu items.
▶ In the navigation section of the working menu, click [Main Menu] to open the main menu.
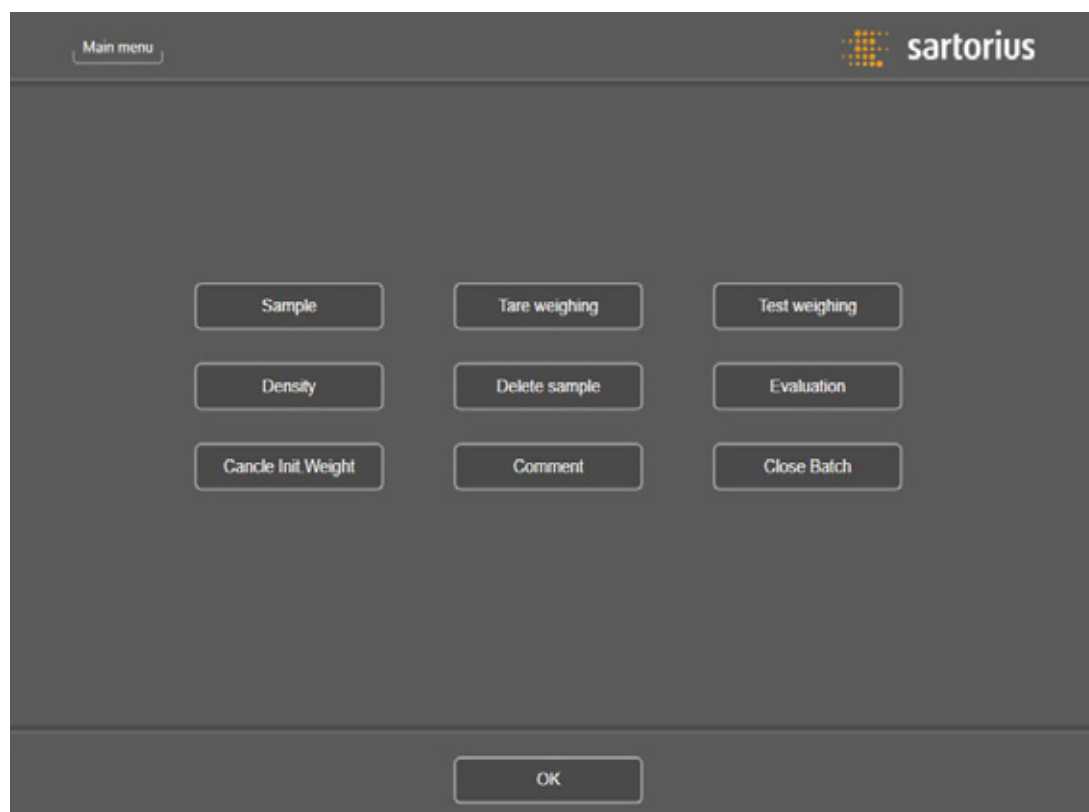
Menu item and button in the main menu	Description see	Function	Perform inspection
Sample	page 18	Select product, machine, batch and work order and perform action	Also refer to chapter "Performing, Evaluating and Deleting Inspections" on page 189.
Tare weighing	page 18		
Test weighing	page 34		
Density	page 42		
Evaluation	page 43		
Delete sample	page 47	Cancelations of running inspections	
Delete tare	page 47		
Close batch	page 54	Close batches	

If you don't have access rights to the main menu:
▶ Open the menu items via your working menu.

Exit Main Menu

▶ In the navigation section of the main menu, click [OK] to return to the main menu.

Main Menu / Working Menu: Menu Item "Sample"

In order to be able to perform sampling, you need to have access rights from your administrator to the "Sampling - Perform a Sample" and "Sampling - Change Density" functions, if the density value is to be changed while performing a sample.

Via the "Sample" menu item, you can perform sampling inspections that are available for your test station, in accordance with the inspection plan. You can perform all inspections except for density determination via this menu item.

Action	Description see
Perform sample inspection (general sequence)	"Performing, Evaluating and Deleting Inspections" on page 189
Perform sampling with fixed tare	"Test Step "Product (Fix. Tare)"" on page 194
Perform sampling with variable tare weighing	"Test Step "Product (Var. Tare)"" on page 195
Perform sampling with "destructive test"	"Test Step "Destr. test init.wt (-> tare)"" on page 195 "Test Step "Destr. test backweight (-> net)"" on page 195
Create sample and start sampling	"Step 1 - Enter or Select Header Data" on page 190 "Step 2 - Start Inspection and Record Measured Values" on page 192
Start sample evaluation	"Step 5 - View Evaluations / Graphics" on page 200
Delete sample	"Step 6 - Delete" on page 202

Main Menu / Working Menu: Menu Item "Tare Weighing"

In order to be able to perform tare weighings, you need to have access rights from your administrator to the "Sampling - Tare Weighing" function.

Via the "Tare weighing" menu item, you can determine the mean tare weight, independent of a sample, and perform tare weighings exclusively. You need the mean tare weight for samples with a fixed tare value.

Action	Description see
Perform tare weighing (general sequence)	"Performing, Evaluating and Deleting Inspections" on page 189
Determine the mean tare weight	"Test Step "Tare"" on page 194

Main Menu / Working Menu: Menu Item "Test Weighing"

Any user can perform a test weighing. Via the "Test weighing" menu item, you can perform all tests except for separate density determination.

The measured values of a test weighing are not included in the overall statistics.

In the terminal application, you identify a test weighing from the "Test weighing" menu item; in the evaluation module, you identify a test weighing from the automatic "T" entry in the "Sample Status" column.
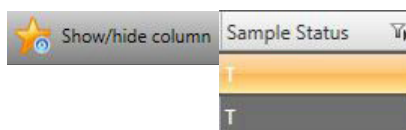
Action	Description see
Perform test weighing (general sequence)	"Performing, Evaluating and Deleting Inspections" on page 189 and the following pages

Main Menu / Working Menu: Menu Item "Density"

ℹ️ To test and change the density value, you need to have access rights from your administrator to the "Sampling - Change Density" function.

Via the "Density" menu item you can determine density exclusively. Density determination can be performed independently of a sample.

Action	Description see
Density determination (general sequence)	"Performing, Evaluating and Deleting Inspections" on page 189 and the following pages
Sample with density determination	"Density" test step on page 195
Apply or change density value	"Currenty density" dialog box on page 198

Main Menu / Working Menu: Menu Item "Evaluation"

ℹ️ In order to be able to display evaluations, you need to have access rights from your administrator to the "Sampling - Evaluations" function.

Via the "Evaluation" menu item, you can display the statistical data for a product or inspection.

Action	Description see
Show evaluation	"Step 5 - View Evaluations / Graphics" on page 200

Main Menu / Working Menu: Menu Item "Delete Sample"

> ℹ️ In order to be able to open this menu item and delete measured values from a sample, you need to have access rights from your administrator to the "Sampling - Delete Sample" function.

Via the "Delete sample" menu item, you can delete current sample tests.

Action	Description see
General sequence of inspections	"Performing, Evaluating and Deleting Inspections" on page 189 and the following pages
Delete measured values from a sample	"Step 6 - Delete" on page 202

Main Menu / Working Menu: Menu Item "Delete Tare"

> ℹ️ In order to be able to open this menu item and delete measured values from an initial weighing, you need to have access rights from your administrator to the "Sampling - Delete init-weight of a tare" function.

Via the "Delete Tare" menu item, you can delete the current initial weights.

Action	Description see
General sequence of inspections	"Performing, Evaluating and Deleting Inspections" on page 189 and the following pages
Delete measured values from an initial weighing	"Step 6 - Delete" on page 202

Main Menu / Working Menu: Menu Item "Close Batch"

> ℹ️ In order to be able to open this menu item and close batches, you need to have access rights from your administrator to the "Sampling - Close Batches" function.

Via the "Close batch" menu item, you can close batches and hence prevent other inspections of products with this batch description.

Action	Description see
General sequence of inspections	"Performing, Evaluating and Deleting Inspections" on page 189 and the following pages
Close batch	"Step 8 - Close Batches" on page 204
Reference to closed batches	"Locked / Closed" dialog box on page 198

Performing, Evaluating and Deleting Inspections

In this chapter, you learn how to perform inspections, evaluations and deletions in a few steps in "SPC@Enterprise Sampling".

► First, make sure that the requirements are met for your work with "SPC@Enterprise Sampling" (see page 55).
► Take a sample from the product flow, e.g. empty packages or packaged products.

In accordance with the work sequence of your production system and the configuration of your test station, select an inspection that fits the sample that you removed from the product flow:
► Open the applicable inspection from your working menu or the main menu.
▷ The input section for header data is displayed.
► Enter the header data for your inspection (step 1).
► Start your inspection and record the measured values (step 2).
► Pay attention to any adjustment recommendations at the end of the test step (step 3).
► Pay attention to the dialog boxes that are displayed during the inspection. You can read about the meaning of all dialog boxes in the chapter on step 4.
► After an inspection, consider the evaluations and charts on the inspections (step 5).
► If you want to delete a current measurement, follow the instructions in the chapter on step 6.
► If you want to write comments about the inspections, follow the instructions in the chapter on step 7.
► If you want to close batches, follow the instructions in the chapter on step 8.

Step 1 - Enter or Select Header Data

Header data are entered in order to determine the correct work order so that the right inspection is performed. The inspections can only be correctly evaluated if the right assignment is made. As all the required base data is available in the system, you can retrieve these data by means of a convenient selection function and do not have to repeat the sampling.

Input Section for Header Data with All Available Header Data Fields

The illustration below shows all the available header data fields in an input section. Depending on your configuration, the view of your input section may differ from this example and may contain less header data fields.

If you know the exact descriptions of your header data, you can enter these directly in the white fields on the left.

Input Header Data Directly

▶ Place your cursor in a free field on the left and insert the respective header data description.
▶ Press the tab key.
▷ The associated name is displayed alongside on the right.

▷ If you made a typing error or the product was not yet recorded in the "SPC@Enterprise database", you get the message that this entry does not exist. You can not continue until the entry has been corrected.

Delete Entry

▶ In the navigation section, click [Clear fields] if you made a typing error and want to completely delete your entries.
▷ All entries in the current input section are deleted.

Select Header Data ID   If you do not know the exact description of the header data or you want to select from the available header data:

▶ Click on the three dots ⬚⬚⬚ ··· ⬚⬚ in the header data field for which you are seeking the description and name, e.g. "Product".

▷ A list of the available options is displayed. The descriptions and the names of all header data available at this test station are listed, e.g. "Products" in this case.
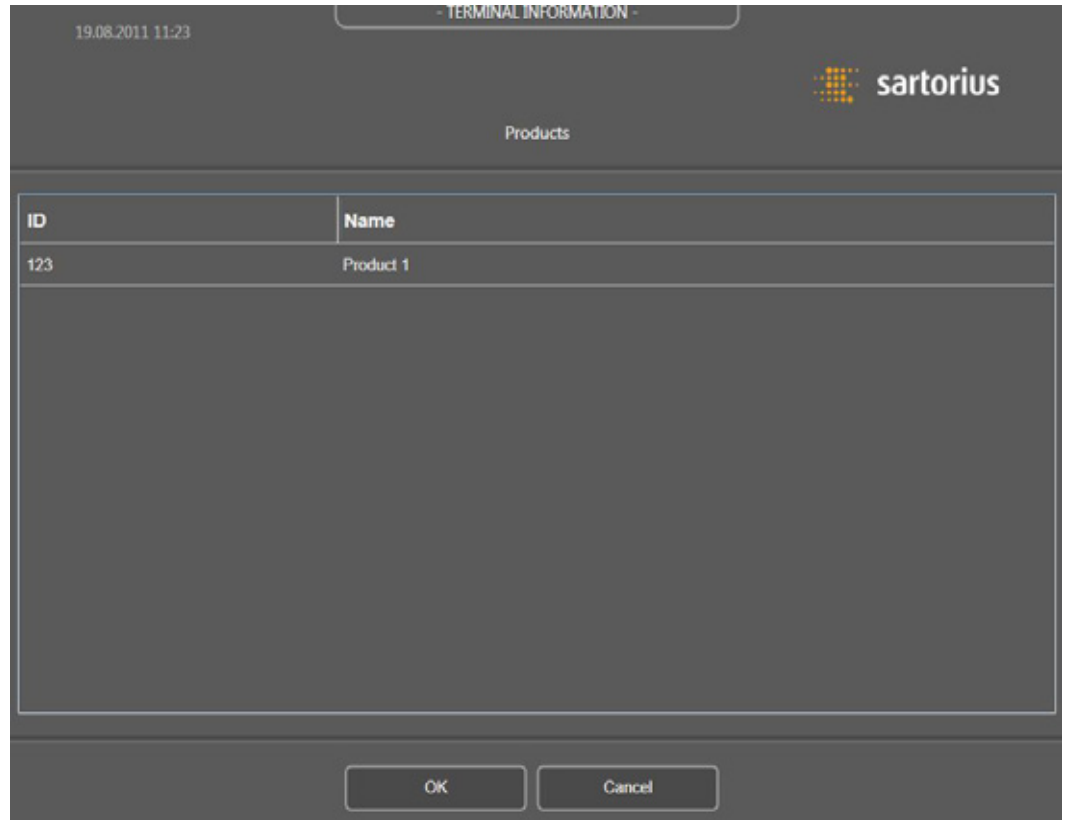
Apply Header Data   ▶ To transfer header data from the database, double-click on a list entry or select the list entry and click [OK].

Depending on the configuration (see "Header Data Tab" on page 169), two or more header data fields are displayed.

Complete Header Data   ▶ Fill out all the displayed fields in order to continue.

Once all header data fields are filled out:

▶ In the navigation section, click [OK].

▷ The "Inspection" window opens (see "Step 2 - Start Inspection and Record Measured Values" on page 192).

Step 2 – Start Inspection and Record Measured Values

Once you have selected or entered all header data for your inspection:
► Click [OK] to start the inspection.
▷ The "Inspection" window opens.

Section	Example	Meaning
Display	Test weighing	Name of current menu item
Display	Tare [1/25]	Test step according to inspection plan [current measured value / total number of measured values in this inspection]
Display/Input	0.0 g	Measured value and current unit
Input	Product (002), Machine (002), Batch (none)	Header data of the assigned work order In this example: A batchless product 002 is inspected by taking 3 measurements on filling machine 002 in inspection plan item "Tare".
Input	Nominal 22.5000	Preset nominal value of the inspected goods
Navigation	[Apply]	Applies the individual measured value in the database; equivalent to the Enter key
Navigation	[Evaluation]	Open the "Evaluation" window (after inspection is complete the button is no longer grayed)
Navigation	[Cancel]	Cancel the procedure and go back to the previous view "Header Data Fields"
Navigation (after the first measured value)	[Quit / Save]	Save all recorded measured values and quit inspection

The inspection steps that you have to perform are specified in the inspection plan and work order (see "Configuring Inspection Plans" on page 113 or "Configuring Inspection Plans Using "Quick Planning"" on page 106).

Dialog boxes in the foreground and the inspection step display indicate which test step you are in and which measured value you are currently recording. You can find an overview of possible inspection steps on page 194 to page 195.

Before you can record the first measurements, dialog boxes are displayed and you have to answer these before you can continue. These may be the "Density data" and "Filling head ID" dialog boxes.

"Current density" Dialog Box   If the work order requires density determination to be performed, the "Current density" dialog box is displayed.
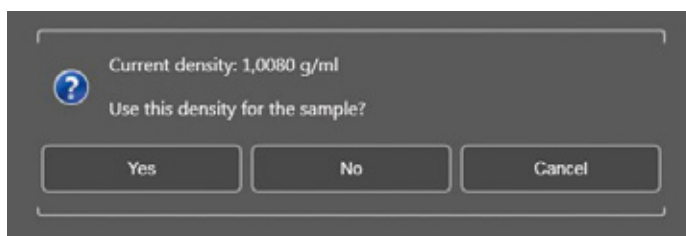
► Confirm the displayed value by clicking [Yes] or click [No] to perform a new density determination. You can find more information about this dialog box in section "Current density?" on page 198 and chapter "Main Menu / Working Menu: Menu Item "Density"" on page 187.

"Filling Head ID" Dialog Box   If the filling head input is enabled, the "Filling head ID" dialog box is displayed.

► Enter the number of the filling head from which your sample originates so that the measured values can be correctly assigned.
► Click [OK] to close the dialog box and start your inspection.
▷ The filling head number is displayed in the test step display. The filling head ID is displayed in square brackets according to the measured values and the number of measurements:
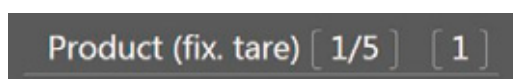
Perform Test Step   ▶ Successively place the products or packages to be inspected on the scale.

If your gauge is connected and "Store weight value automatically?" is enabled, a measured value is automatically displayed. If no gauge is connected, you have to enter the measured value manually.
▶ Click [Apply] or press the Enter key to accept the current measured value.
▶ Unload the gauge after recording each measured value.
▷ The test step display switches from [1/X] to [2/X]. You can now record the second measured value.
▶ Proceed in this way for all measured values in the test step display. In the case of a test step display showing [1/3], you record three measured values before the test step is complete.

Messages   If a message is displayed during the test step (e.g. "Check product!"):
▶ Please refer to chapter "Step 4 - Pay Attention to the Dialogs during the Inspection Process" on page 198.

Finish Test Step   Once you have applied or entered the final measured value of the test step:
▷ The test step is automatically closed. The "Adjustment" window opens (see "Step 3 - Working in the "Adjustment" Window" on page 196).

Depending on the inspection plan you perform several test steps:

Test Step "Tare"

Tare [1/3]
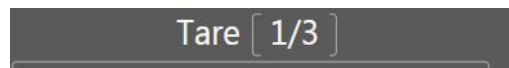
The "Tare" test step display is displayed when you perform a test weighing (weighing of a package). The test step "Tare" is required if:
– The mean tare weight has to be calculated in order to determine the fixed tare weight
– Individual values of a variable tare weight have to be calculated.

When calculating the individual values of a variable tare weight, you have to note the exact sequence of the weighed packages.

Test Step "Product (Fix. Tare)"

Product (Fix. Tare) [1/3] [1]

The "Product (fix. tare)" test step display is displayed if you are weighing a product with packaging and the mean tare weight is already available.
The fixed tare weight value can be preset or determined by tare weighing. The fixed tare weight value is automatically deducted for each product weighing.
In this test step you determine the net weight of the product.

Test Step "Product (Var. Tare)"

Product (var. Tare) [1/3] [1]

The "Product (var. tare)" test step display is displayed if you are weighing a packaged product. Prior to this test step you have weighed the empty packages and determined the variable tare weight.

Now, in this test step, you determine the gross weight (packaging and content). The tare weights determined earlier are automatically deducted and only the net weight is transferred to the database. When weighing, therefore, you have to make sure that you weigh the packaged products in the same order as for the empty packages that you weighed earlier.

In this test step you determine the net weight of the product.

Test Step "Product"

Product [2/3]

The "Product" test step display is displayed if you are weighing a product without packaging. In this test step you determine the net weight of the product.

Test Step "Destr. test init.wt (–> tare)"

Destr. test init.wt. (->tare) [1/3]

The "Destr. test init.wt (-> tare)" test step display is displayed when you perform the first part of a destructive test - the initial weighing:
In the initial weighing, packaged products are weighed in order to determine the gross weight (packaging and product). The terminal application stores these gross weights. After the initial weighing, empty the packages.

Test Step "Destr. test backweight (–> net)"

Destr. test backweight (->net) [1/3]

The "Destr. test backweight (-> net)" test step display is displayed when you perform the second part of a destructive test - back weighing:
In back weighing, you weigh the completely empty packages in the same order that you used for the initial weighing of the packaged products. In this way you determine the tare weight.

The terminal application calculates the net weight of the product from the two parts of the destructive test.

Test Step "Density"

Density [1/1]

The "Density" test step display is displayed when you apply or change a density weight for your product.

Step 3 – Working in the "Adjustment" Window

Once you have completed a test step or a complete inspection, the "Adjustment" window opens automatically.

Section	Example	Meaning and function	
Display	Sample	Name of current menu item	
Display	Adjustment recommendation	Name of the current window, section for comment fields and display of adjustment recommendation	
Display	-6.7 ml	Recommended value to correct the filling machine	
Display	Nom. 1,000.0 ml	Preset nominal value of the inspected goods	
Input	Sample / cumulated	Sample: Summary of the last sample	Cumulated: Summary of all samples
Input	Mean value	Mean value per sample	Mean value of all samples
Input	Standard dev.	Deviation per sample	Cumulated values of all
Input	Minimum	Minimum in a sample	Lowest value from all
Input	-T2/+T3	Respective violation in a sample	Percentage weight in all samples
Input	-T1/+T2		
Input	-T/+T1		
Navigation	[Individuals]	Open a list of all measured values of the inspection	
Navigation	[Graphic]	Open the "Evaluation" window	
Navigation	[Comment]	Open the comment field	
Navigation	[OK]	Back / proceed to next test step	

The "Adjustment" window is displayed after each completed test step, regardless of whether an adjustment recommendation is made for the filling machine.

"SPC@Enterprise Sampling" automatically calculates whether an adjustment of your filling machine seems meaningful and shows you the calculated value in the "Adjustment" window together with a provisional evaluation.

The provisional evaluation shows you the trend of the deviations. Depending on the configuration of your test station, either you can enter or select a comment, or you are forced to do so.

Individual Values

Once you have recorded the measured values, you can view a list of those values.
▶ Click [Individuals] if you want to view a list of the individual measured values of your inspection.
▷ The list of individual values is displayed.
▶ In the list of individual values, click [Cancel] to return to the "Adjustment" window.
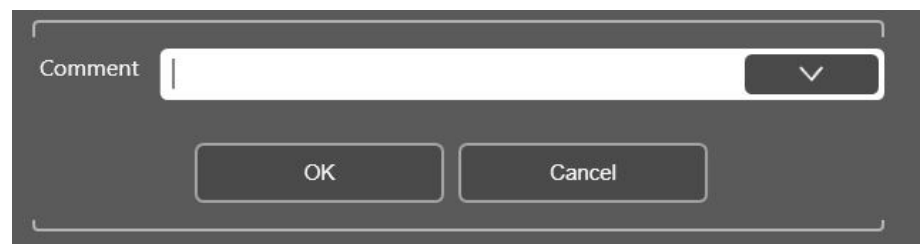
Graphic – View Evaluation

You can view an evaluation if you have performed at least two test weighings or samples for a work order.
▶ Click [Graphic] to open the evaluation.
▷ The "Evaluation" window is opened (see "Step 5 - View Evaluations / Graphics" on page 200).
▶ In the "Evaluation" window, click [Cancel] to return to the "Adjustment" window.

Enter Comment

Depending on the configuration, either you can enter a comment after each test step, or you are forced to do so. If a comment is specified in the configuration as compulsory, the comment dialog box is automatically displayed immediately on completion of a test step. If a comment was not specified as compulsory, you can open the comment dialog box via [Comment].

▶ Enter a comment or select an available comment via the arrow pointer [⌄]. You can only leave this field blank if entering a blank comment was allowed in the configuration of your test station.
▶ Click [OK] to save the comment and close the comment field.

OK – Back, Continue or Quit

▶ Click [OK] if you want to go back to the header data in order to continue or quit the inspection.
▷ You are now back in the "Header Data" window.
▶ Click [OK] to continue with the next test step.
▶ Click [Cancel] if you want to quit the inspection.

Step 4 – Pay Attention to the Dialogs during the Inspection Process

"SPC@Enterprise Sampling" accompanies you during your inspections: You receive messages and see dialog boxes that make your work easier. If you are not sure what the messages mean or how you should respond, please refer to this chapter.

No data to display

"No Data" dialog box

Cause	Recommendation
You have selected a program function for which either no data or not all of the required data are available; e.g. you have opened the evaluation of an inspection that is not yet finished.	▶ Finish the inspection so that all data are available and can be displayed.

Current density?

"Current density" dialog box

Cause	Recommendation
You are now in an inspection that contains the test step "Density". A density value for the selected product is already available. You can either use the displayed density value or change it. You can only continue with the inspection after deciding on a density value.	If you want to use the displayed density value for further testing: ▶ Click [Yes]. If you do **not** want to accept the suggested value because you want to predetermine the density and change the density value: ▶ Click [No]. ▷ The "Density" window opens. ▶ Perform the density determination. **Enter the newly determined density value in the terminal application.** If you exit the inspection by clicking [Cancel], you go back to the working menu.

"Locked / Closed" dialog box

Cause	Recommendation
You have selected a batch in the header data that was already closed or a work order that was locked. You can not call up closed batches or locked work orders and perform an inspection with them. This function of "SPC@Enterprise" prevents you from recording invalid measured values.	▶ Check the "Batch" or "Work Order" header data. ▶ Apply the correct header data for the batches or work orders in your inspection.

Enter Filling Head ID　　**"Filling head ID" dialog box**

Cause	Recommendation
This dialog box is displayed if the filling head data were configured for your inspection, because you want to record samples from various filling heads.	▶ Enter the number of the filling head from which your sample originates. ▶ Click [OK] or press the Enter key.

Comment　　**"Comment" dialog box**

Cause	Recommendation
The obligation to view, change or enter a comment was enabled for your test station. Depending on the configuration, the comment may be displayed on one test station only, or on all test stations.	▶ Pay attention to any instructions in the comment. ▶ Enter a comment on the current inspection process (see "Step 7 - Comment" on page 203).

Check product !　　**"Check product" dialog box**

Cause	Recommendation
In a product inspection, you have received a measured value that lies well outside a probable value range. The measured value is not accepted.	▶ Place the correct material - the product - on the scale. ▶ Repeat the measurement.

Check tare !　　**"Check tare" dialog box**

Cause	Recommendation
In a tare weighing, you have received a measured value that lies well outside a probable value range. The measured value is not accepted.	▶ Place the correct material - the packaging - on the scale. ▶ Repeat the measurement.

(...) Violation　　**"Violations" dialog box**

Cause	Recommendation
The currently recorded measured value is so high or so low that it violates a tolerance limit or caused too great a deviation from the mean value. "SPC@Enterprise" was configured to display a reference to this violation.	▶ Click [OK] to close the dialog box and continue the inspection. ▷ The violation is not deleted. You only confirm that you have seen the violation. You can find more information about violations in the chapter "Consider Violation Messages" on page 205.

Step 5 – View Evaluations / Graphics

Open "Evaluation" Window

▶ In the "Adjustment" window of your inspection, click [Graphic] or, in the main menu / working menu, click [Evaluations].

▷ The "Evaluation" window is opened.
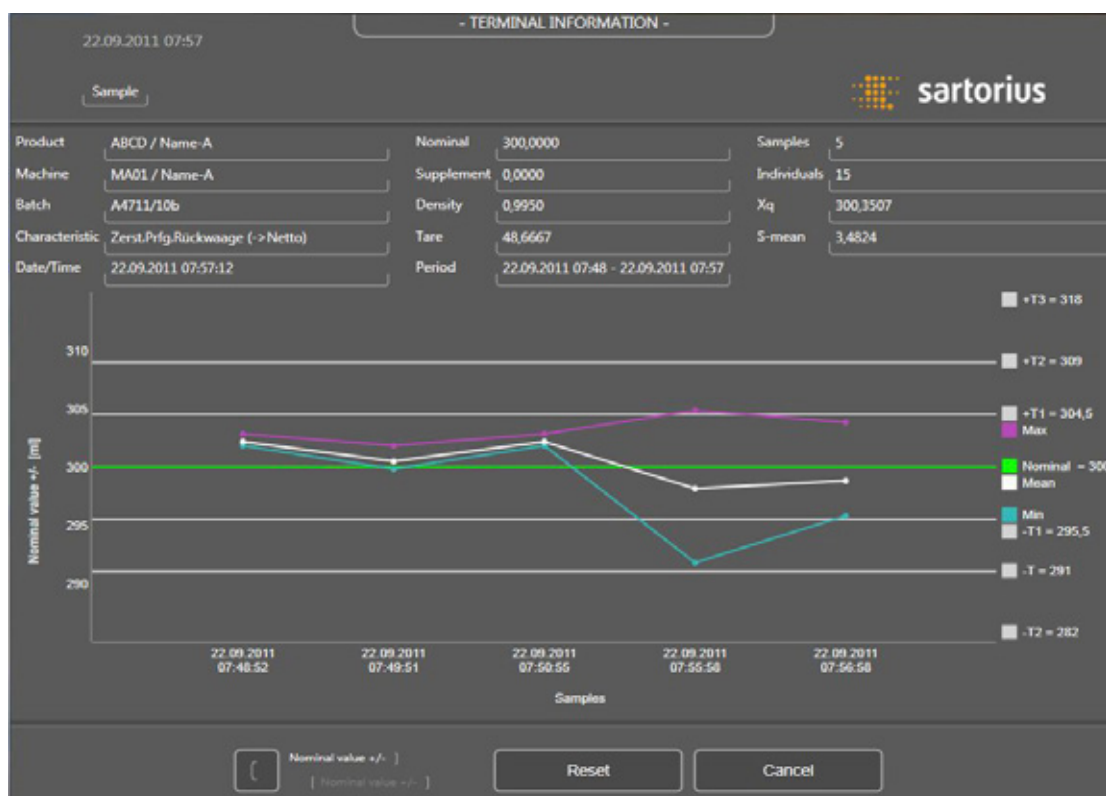
Section	Example	Meaning
Display	Evaluation	Name of the current menu, "Evaluation", or name of the current inspection, e.g. "Sample"
Display	Product, machine, batch	Header data of the evaluated inspection
Display	Characteristic	Inspection plan position, test type of inspection
Display	Date/time	Current date and time
Display	Nominal, supplement, density, tare	Target values of the evaluated inspection
Display	Period	Period in which the inspection was performed
Display	Samples, individual values	Scope of inspection
Display	Xq	Mean value
Display	S (mean)	Standard deviation
Input	Graphic "Lower limits"	Configured and selected chart of the values of the performed inspection; y = spread, x = time
Navigation	Nominal +/- value lower limits	Button for switching between the standard graphic and the toggle graphic
Navigation	Reset	Reset the graphic to its original size
Navigation	Cancel	Back to the "Adjustment" window, or back to the "Evaluation" header data

Requirement — ”SPC@Enterprise Sampling” provides an evaluation if you have completed at least two inspection steps of a work order or an entire inspection.

You can toggle between the two graphics, “Standard” and “Toggle”, that you configured via the “Graphic” tab (see section “Graphic Tab” on page 175).

The displayed graphic is highlighted in each case. The standard graphic (top row) is displayed in the following example:
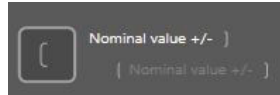
Toggle between the Charts — To switch from the standard graphic to the toggle graphic:
▶ In the navigation section of the “Evaluation” window, click the icon.
▷ The toggle graphic is displayed.
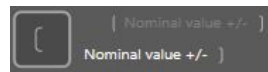
Zoom Graphic Section — You can zoom a section of the graphic:
▶ Place your cursor on the graphic in the place that you want to zoom.
▶ Hold down the left mouse button and draw a rectangular section.
▷ A zoomed display of the selected area is shown.

To restore the graphic to its original size:
▶ Click [Reset].
▷ The graphic is restored to its original size.

Exit “Evaluation" Window — To exit the “Evaluation” window:
▶ Click [Cancel].
▷ You are now in the previous menu item.

Step 6 – Delete

In "SPC@Enterprise Sampling", **you can only delete the measured values of a current inspection**. If you attempt to delete measured values of completed inspections, the "Not data to delete!" dialog box is displayed.
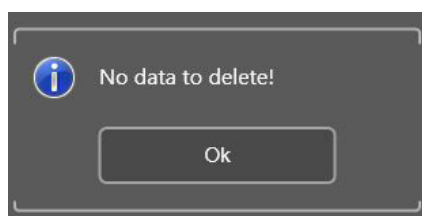
Open Data for Deletion

▶ Delete the menu item of your choice during or immediately after an inspection by clicking "Delete sample" or "Delete tare".

▷ The "Delete sample" or "Delete tare" window is displayed. The header data of the current inspection are displayed in gray.

▶ Click [OK] to delete.

▷ The measured values of the current inspection (sample or initial weight) are deleted. The dialog box "Canceled!" is displayed.
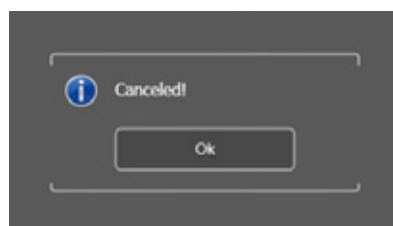
▶ Click [OK] to return to the main menu or working menu.

Step 7 - Comment

Depending on the configuration, either you can enter or select a comment after each test step, or you are forced to do so. Comments are useful for the work process if, for example, you want to make a note of an adjustment recommendation or save other instructions for other employees at your test station.

Comment Required
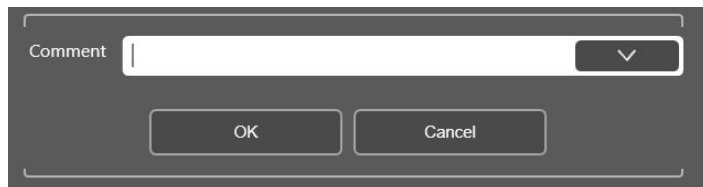
If a comment is specified in the configuration as compulsory, the comment field is automatically displayed immediately in the "Adjustment" window, on completion of a test step. You can not continue until you have entered or selected a comment.

Comment Possible

If a comment was not specified as compulsory, if necessary you can open the comment field in the navigation section of the "Adjustment" window by clicking [Comment].

Enter Comment or Select

If the comment field displays automatically or is called up by clicking [Comment]:

▶ Enter a comment in the data field or select an available comment via the arrow pointer ⌄ . You can only leave this field blank if entering a blank comment was allowed in the configuration of your test station.

▶ Click [OK] to save the comment and close the comment field.

Step 8 – Close Batches

You can close batches in "SPC@Enterprise Sampling", i.e. you select the ID of a batch description and lock this batch ID for any other inspection.

▶ Click "Close batch".

▷ The "Close batch" window opens. You can select header data for the batch that you want to close.

▶ Enter the header data.

▶ Click [OK].

▷ The "Close this batch ?" dialog box is displayed. In this dialog box, you can recheck that you selected the right batch and, if necessary, switch back to the header data by clicking [Cancel].
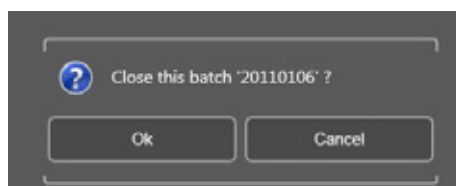
▶ Click [OK] to close the batch.

▷ The batch is closed. The "Batch sucessful closed" dialog box is displayed.
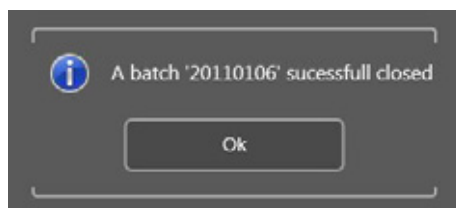
▶ Close the dialog box by clicking [OK].

▷ The dialog box is closed.

▶ Exit the "Close batch" window by clicking [Cancel] to return to the working menu or main menu.

Consider Violation Messages

If your software was configured to display information about violations (see section "Show Info Message" on page 174), "SPC@Enterprise Sampling" shows you, via the "Violations" dialog box, whether a measured value exceeds an upper tolerance limit or falls below a lower tolerance limit during an inspection.

In addition, violation messages at the end of a test step indicate whether statistical limits were violated.

Example: "Violations" Dialog Box

The "Violations" dialog box describes the type of violation, e.g. a deviation from the mean value:

▶ Click [OK] to close the dialog box for violation messages and continue the inspection.
▷ You have confirmed that you have seen the violation. The violation message is saved and is visible in "Alarm Lists" in the "Evaluation" and "Monitoring" modules.

You can only delete violations from alarm lists via the "Evaluation" module of "SPC@Enterprise". To acknowledge a violation so that it is no longer displayed in alarm lists:
▶ Proceed as described in "Displaying Warnings and Alarms in the "Alarm List"" on page 137.

Archiving

QM Personnel and Production Personnel
QM and production personnel work with the archiving function in the main module. In order to be able to use the archiving function in the main module as QM or production personnel you need the corresponding access rights.

⚠ **ATTENTION!**
Data loss due to neglected backup

All data can be corrupted or lost due to faulty computer hardware, magnetic fields, malicious programs or untrained users. You can not document your quality assurance if data are irretrievably lost.

Archiving as described in this chapter **does not** serve as data backup! The data are merely moved to a preset folder (usually C:\EnterpriseDB) so that you can then perform a backup.

To back up the archive only:
▶ Regularly backup the pre-configured folder (usually C:\EnterpriseDB) to an independent storage medium so that you can restore the folder at any time. To do this, you require separate software for incremental backups.

To back up the installed software and the archive:
▶ Save a copy of the hard disk or partition C: of the hard disk to an independent storage medium so that you can restore the hard disk or partition on new computer hardware at any time. To do this, you require separate software for system backups and special hardware, which must be compatible.

The archive consists of archive files of type "Sartorius_SAF_SPCE_ HistoryYYYYMMDD.mdf", which are located in the pre-configured folder (usually C:\EnterpriseDB).

There are two options for moving data to the archive:
– Automatic archiving (see next chapter)
– Manual archiving (see "Performing Manual Archiving" on page 207)

Using Automatic Archiving

You can move all data - automatically and at regular intervals - from the SQL database to the pre-configured folder in the archive (usually C:\EnterpriseDB).
▶ Configure the pre-configured folder and time of automatic archiving (see "Setting Up Data Archiving" on page 51).
▷ At the pre-set time, all data are automatically moved into the pre-configured folder in the archive (usually C:\EnterpriseDB).

Performing Manual Archiving

Independently of automatic archiving, you can manually move all data from the SQL database to the pre-configured folder in the archive (usually C:\EnterpriseDB).

▶ Make sure that the archive database is correctly configured (see "Setting Up Data Archiving" on page 51).

▶ Close all open windows of the applications "SPC@Enterprise" and "Sartorius AllSuite® Management".

▶ Start the main module (see "Starting the Main Module" on page 95).

▶ In the "System" menu icon group, click [Archive Data].

▷ The "Archive Data" window opens.
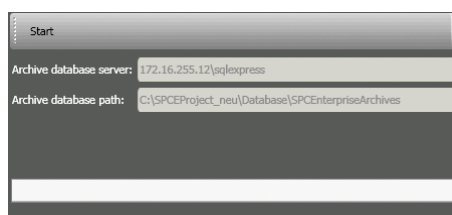
▶ Click [Start].

▷ All data that were not previously moved to the archive are now transferred to the pre-configured folder in the archive (usually C:\EnterpriseDB). The progress bar depicts the progress of the archiving process.
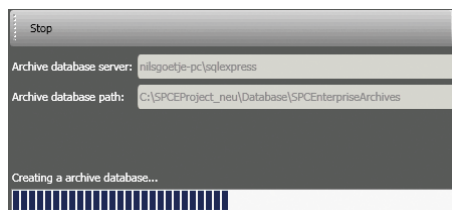
▷ Once the transference of data is complete, the following dialog box is displayed.

To display a summary of the data transferred to the archive:

► Click [Yes].

▷ The summary of the data transferred to the archive is displayed.
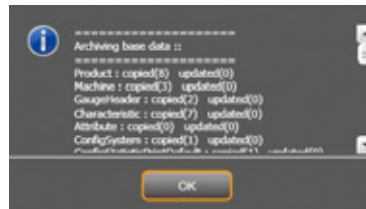
► Click [OK].

To close the dialog box without displaying a summary of the data transferred to the archive:

► Click [No].

► Close the "Archive Data" window.

▷ All data that were transferred to the archive continue to be available for evaluations and printouts, provided that the respective archive file "Sartorius_ SAF_SPCE_HistoryYYYYMMDD.mdf" is available in the pre-configured folder (usually C:\EnterpriseDB).

Service Center

Contact

Sartorius Weighing Technology GmbH
Weender Landstrasse 94–108
37075 Goettingen, Germany
Phone: +49.551.308.0
Fax: +49.551.308.3289
E-mail: Int.service@sartorius.com
Internet: www.sartorius.com

If you would like to contact the Sartorius Service Center:
▶ Have the following information ready:
– Name of the software used
– Version number (in the "Sartorius ProControl@Enterprise" application,
   click the icon and [About]).

You can reach the Sartorius Service Center at the following times:
– Monday through Thursday: 8:00 AM to 4:30 PM
– Friday: 8:00 AM to 2:30 PM

You can reach the Sartorius Service Center in the following ways:
– Service Center: +49.551.308.4440
– Fax: +49.551.308.4449
– E-mail: Int.service@sartorius.com

Training

Customized training courses are available from Sartorius on request.
Contact your sales consultant or application specialist.

Glossary

Absolute Tolerance Limit	See "-T2"
Acknowledgment	Confirmation of a (warning) message
Additive Weighing	Procedure during weighing A number of products are placed successively on the scale without unloading the scale between weighings. The scale automatically calculates the difference in each case and displays the weight of each individual product.
Air Buoyancy	The application "Sartorius ProControl@Enterprise" can take account of air buoyancy during weighing.
Alarm List	See also "Air Buoyancy". A list of triggered alarms As soon as an alarm that was configured in "Alarm Configuration" is triggered due to a violation, this alarm is recorded in the alarm list.
Archive	Backup of all entered data to the "Enterprise Archive" – The "Enterprise Archive" is a component of the application "Sartorius ProControl@Enterprise". – Does not replace hard disk backup
Arithmetic Mean	Average or mean value The sum of all values divided by the number of values Example: The (unweighted) arithmetic mean of 10, 11, 12 and 13 is $$\frac{10+11+12+13}{4} = 11,5$$
ASCII	**A**merican **S**tandard **C**ode for **I**nformation **I**nterchange – 7-bit character coding for character sets – Comprises 126 characters, i.e. many special characters used in languages other than English can not be displayed (for example the German umlaut or the letter "ß").
Audit	An inspection method that is used to assess whether processes meet certain specifications or regulations. Performed mostly by specially trained auditors in the quality management field.
Audit Trail	A component of the application "Sartorius ProControl@Enterprise" Uses electronic signatures to record who performed which activity with the application "Sartorius ProControl@Enterprise"
Authentication	Entering a user name and password to check the identity of a user
Automatic Weight Value Transfer	Procedure during data entry – The weight is automatically transferred from the scale into a formula in the software. – The scale is connected to the terminal application "Sartorius ProControl@ Enterprise Sampling".
Average	See "Arithmetic Mean"
Backweighing	See "Backweight"
Backweight	Final readout Reweighing of products already weighed earlier, after those products have gone through a process that alters their weight (e.g. drying)

Base Data	Master data Data relating to products, machines, characteristics and gauges which are the basis for creating samples and evaluations.
Batch	An order amount, a number of products or a batch in production
Batch Inspection	Inspection of products from a specific batch
Bio	Quality and inspection seal for organically produced agricultural products pursuant to Regulation No 2092/91 (EEC) and / or 834/2007 (EC) on the ecological or biological production and labeling of organic and biological products
BRC	British Retail Consortium – Manages and maintains standards for a supplier evaluation system, e.g. the Global Standard for Food Safety (a standard under private law) – Global standards are internationally recognized quality standards that focus on hygiene and product safety.
Buoyancy	The force that opposes gravity in liquids or gases – Static buoyancy arises due to the displacement of liquid or gas (e.g.): hot air balloon, ship)
Cancelation	Reversal of a process
CAQ	**C**omputer-**a**ided **Q**uality Assurance CAQ systems use statistical methods to evaluate data from quality inspections and hence contribute to minimizing the risks associated with product liability law.
CCP	Critical Control Point A hazard level on which it is possible - and of vital importance - to prevent a food safety hazard, or to reduce the hazard to an acceptable level. This term is used in HACCP, for example.
Central Computer	See "Workstation"
Characteristics	See "Test Characteristics"
Clean Room	A room in which the concentration of microorganisms in the air is kept as low as necessary In Germany, for example, VDI 2083 defines particulate cleanliness classes and quality assurance.
CO$_2$	Carbon dioxide An acidic, non-flammable, colorless and odorless gas that dissolves easily in water and is produced during respiration. CO_2 is a component of the protective gas in MAP packages.
Confirmation	see "Acknowledgment"
CSV	**C**omma-**S**eparated **V**alues – File format of a text file with simple structured data, e.g. tables – Suitable for importing and exporting in Microsoft® Excel
Cumulated Frequency	Cumulative frequency Cumulation means that measured values are grouped together and then sorted by size, in order to check whether a certain upper limit is exceeded.

Database	Part of a database system (DBS)
	– A logically related data inventory that is managed by a database management system (DBMS)
	– As the database, the application "Sartorius ProControl@Enterprise" uses MS SQL Server 2005 or 2008, version "Express", "Standard" or "Enterprise".
Data Field	Smallest part of a data set
	Example: The data set "Product" consists of the data fields "Product ID", Product Name", "Product Group" and "Product Price".
Density Determination	Calculation of the ratio of the mass (m) to the volume (V) of a body: $\quad = \dfrac{m}{V}$
	Unit: Grams per cubic centimeter or kilograms per liter
	The density of liquid products must be known in order to convert their weight to volume.
Destructive Test	See "Gross - Tare"
Dynamic Sample Display	A function of the "Monitoring" module
	– Used for the timely monitoring of production
	– A check for new sample records that were recorded in the database is made at regular intervals.
	– The samples and statistics recorded in the database are continuously displayed.
EHEDG	**E**uropean **H**ygienic **E**ngineering and **D**esign **G**roup
	A foundation of companies from the food manufacturing and processing industries as well as research institutes and public health organizations. Supports hygiene measures during the manufacture and packaging of food products.
Enterprise Resource Planning (ERP) System	Software for modeling the flow of goods in a company (ordering, purchasing, warehousing, offer and sale)
ERP	**E**nterprise **R**esource **P**lanning
	Planning the use of a company's available resources (capital, equipment or personnel) with the aim of deploying these resources as efficiently as possible for the operational process, hence optimizing business processes
Ethernet	Specification of software (protocols) and hardware (cables, splitters, network cards, etc.) for wired data networks. Enables the exchange of data between computers, printers, etc. with transmission speeds of 10 Mb/s to 10 Gb/s.
Evaluation Module	A component of the application "Sartorius ProControl@Enterprise"
EWMA	Used to configure and display samples and statistics **E**xponentially **W**eighted **M**oving **A**verage
	A statistical method for smoothing time series, in which the delayed variables are exponentially weighted. Here, the weightings decline exponentially with time. "SPC@Enterprise" has an EWMA function. This function takes account of consecutive samples, thus allowing you to assess the reliability of inspections. You specify the EWMA weight factor for this purpose. This can be set between 0% and 100% - in practice it is set between 20% and 30%. The EWMA weight factor determines the weighting of the current mean sample value in relation to the EWMA mean value of the preceding sample. Due to the fact that there is no preceding EWMA mean value for the first sample of a series, the nominal value is used here instead.
	If you set the EWMA weight factor at 25%, for example, the current mean sample value is weighted by 25% and the final calculated EWMA mean value is weighted by 75%.

Fill Level Control	Determination of the weight and / or volume of products in finished or open packages
	A distinction is drawn between:
	– Finished packages with the same nominal filling quantity
	  All finished packages have the same weight and hence also the same price
	  Filling quantity control takes place directly on the production line.
	  Different regulations exist for:
	  - Liquid food products
	  - Non-liquid food products
	  - Non-food products
	  - Medicines
	– Finished packages with different nominal filling quantity
	  The finished packages have different weights.
	  Each finished package has a different price which depends on its weight.
	  The weight of the finished package can not be changed without destroying the packaging.
	  Filling quantity control takes place directly on the production line.
	– Open packages
	  The weight of the finished package can be changed without destroying the packaging.
	  Fill level control takes place at the time of sale.

Filling Head	Part of a filling, batching or packaging machine that fills the specified filling quantity of a product into its packaging
Finished Packaging Directive	Directive 76/211/EEC defines the labeling of filling quantities and the following filling quantity requirements for finished packaging: – The mean value of the weight or volume of all finished packages must not be less than the nominal filling quantity. – The negative error -T1 This depends on the nominal filling quantity.

Nominal filling quantity QN (in g or ml)	Permissible negative error –T1	
	in % of QN	in g or ml
5 to 50	9	–
50 to 100	–	4.5
100 to 200	4.5	–
200 to 300	–	9
300 to 500	3	–
500 to 1,000	–	15
1,000 to 10,000	1.5	–

– Maximum 2 % of finished packages may be less than the negative error -T1.
– No finished package may be less than two times the negative error -T1 (-T2).

Finished Packaging Regulation	The Finished Packaging Ordinance (FertigPackV, FPVO) is the German equivalent of Directive 76/211/EECG (see "Finished Packaging Directive").
Fixed Tare	Weighing of a number of products with the same applied mean tare value An applied mean tare value is used, which can be updated for each batch and tare sample weighing. See also "Mean tare value"
FPC	**F**inished **P**ackaging **C**ontrol Inspection method which satisfies the requirements of the Finished Packaging Directive (76/211/EEC)

FPC – Gross	See "Gross"
FPV	See "Finished Packaging Directive"
FPVO	See "Finished Packaging Directive"
Gas Analysis	Determination of the composition of gases, e.g. in MAP packages.
Gauge Details	Technical specification of the gauge Measurement range, measurement unit and measurement accuracy
Gauges	Measuring instrument with which an inspection is performed, e.g.: – Scale – Metal detector – Gas analyzer
GFSI	**G**lobal **F**ood **S**afety **I**nitiative – An association of companies in the food manufacturing and processing industries as well as service providers coordinated by The Consumer Goods Forum – The Consumer Goods Forum is an independent, worldwide network of consumer goods manufacturers and processors.
GMP	**G**ood **M**anufacturing **P**ractice Recognized good practice in the production of food products, medical products, pharmaceuticals and feedstuffs Dynamic buoyancy arises due to flows, (e.g.: aircraft wing or vehicle spoiler)
Gross	Sampling method according to Regulation No. 76/211/EEC (non-destructive test) The filled containers are weighed. The tare weight is not determined by weighing; a fixed tare is used. This method is suitable if all containers are of the same weight and closed when they leave the filling machine, e.g. bottle filling.
Gross Backweight	Weighing the product including packaging after the filling process is complete
Gross Initial Weight	Direct weighing of the product including packaging during filling.
Gross Weight	The weight of a product including its packaging Net weight plus tare weight
Gross – Tare	Sampling method according to Regulation No. 76/211/EEC (destructive test) First you weigh the filled containers. Then you open and empty the containers and weigh the empty containers in the same sequence. This method is suitable if the containers are closed when they leave the filling machine, e.g. bottle filling
HACCP	**H**azard **A**nalysis and **C**ritical **C**ontrol **P**oints – A preventive system that is intended to ensure the safety of food products and consumers. – Demands good hygiene practice (GHP) – Specified in EC Regulations 852/2004, 853/2004 and 854/2004 (EC hygiene package) – Enshrined in German law in the 1998 Food Hygiene Act

Header Data	Data to uniquely characterize the user data in a data set (form headings) – Describe the context or reference in which the data are collected – For example, the following header data are used in the terminal application "SPC@Enterprise Sampling": - Product - Machine – Batch - Work order - Inspection plan
Histogram	Graphical representation of the frequency distribution by means of directly adjoining rectangles – Shows the actual course of the frequency distribution, not only the mean value and standard deviation – Requires the classification of data by classes – The area of the rectangles shows the (relative) class frequency. – The height of the rectangles shows the (relative) frequency density (the [relative] frequency divided by the width of the corresponding class).
HTML	**H**yper**t**ext **M**arkup **L**anguage A text-based markup language for the structuring of texts, images and hyperlinks in documents
IFS	**I**nternational **F**ood **S**tandard – European organization under private law which checks and certifies systems for ensuring food safety, quality and legality in food production – Based on DIN EN ISO 9001:2008, GHP and HACCP – Certification is performed by accredited certification bodies (e.g. in Germany: DQS, Bureau Veritas, TÜV or SGS).
Initial Weight	A weighing process that serves to fill a specified quantity with the desired weight value
Inspection Plan	A compilation of test characteristics which serve as a template for creating work orders in which they are associated with products and filling machines.
IP	**I**nternet **P**rotocol – A network protocol widely used in computer networks – Foundation of the Internet – Computers within a network can be grouped and addressed using an IP address and a subnet mask so that connections can be made to these computers.
ISO 9001	A Quality Management Standard – Defines the requirements on the quality management system – Certification is performed by accredited certification bodies within a limited time period (e.g. in Germany: DQS, Bureau Veritas, TÜV or SGS).
ISO 19011	A Quality Management Standard Instructions for auditing quality and environmental management systems
ISO 22000	A Quality Management Standard – Globally applicable management system for food safety – In addition to the HACCP concept also demands a quality management system similar to ISO 9001:2000 – Certification is performed by accredited certification bodies (e.g. in Germany: DQS, Bureau Veritas, TÜV or SGS).

LDAP	**L**ightweight **D**irectory **A**ccess **P**rotocol
	– A protocol from the field of network technology
	– Allows the querying and modifying of information from a directory service over an IP network.
	– Based on the client-server model
	A pre-configured tolerance limit
	The application "Sartorius ProControl@Enterprise" is delivered with three pre-configured limit defaults: EU (cf. table "Finished Packaging Directive"), NL and US. Hence the software is pre-configured on delivery for the various legal tolerance limits applicable to nominal fill levels.
Limit Values	UCL, UTL, UWL, LCL, LTL and LWL
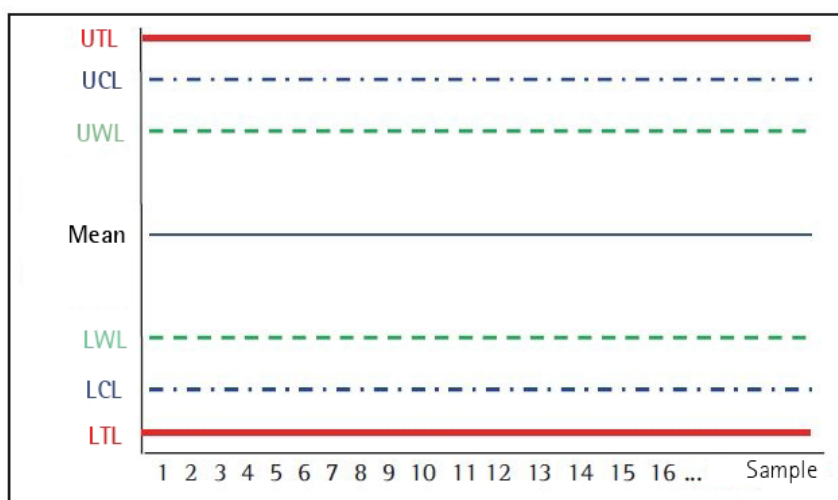
Lower Tolerance Limit	See "-T", "-T1" and "-T2"
LTL	Lower tolerance limit, see "Limit Values"
	A limit value that relates to the mean value and is displayed as a horizontal line on the range or sigma chart
LWL	Lower warning limit, see "Limit Values"
	A limit value that relates to the mean value and is displayed as a horizontal line on the range or sigma chart
	Measured values that breach this limit value trigger a warning.
Machine	ID number of a filling, batching or packaging machine
Main Module	A component of the application "Sartorius ProControl@Enterprise"
	Used to configure and display base data, inspections and evaluations
Manual Input of Measured Value	Procedure during data entry
	– The employee who performs the inspection reads the weight from the gauge and then, at a test station, manually enters the data in the terminal application "Sartorius ProControl@Enterprise Sampling".
	– The gauge is not connected to the terminal application "Sartorius ProControl@Enterprise Sampling".
	– cf. "Automatic Weight Value Transfer"
MAP Packaging	Gas-flushed packages that allow food products to retain their appearance, texture and nutritional value
	The protective gas consists of oxygen (O_2), carbon dioxide (CO_2) and nitrogen (N_2).

Material to be Weighed	Consists of packaging and packaged product
MDS	Machine Data Sampling – A component of an MES – Data such as production quantity, good production, faults and maintenance are used to control machines, on the one hand, and for recording operating data, on the other hand, e.g. for statistical process control (SPC) and for planning and controlling production orders.
Mean	See "Arithmetic Mean"
Mean Tare Value	Determination of the tare weight with the aid of a sample, from which the mean value is calculated – The same tare weight is used for all weighings. – Fluctuations of the tare that can be caused by different packaging weights are disregarded.
Mean Value	See "Arithmetic Mean"
MES	**M**anufacturing **E**xecution **S**ystem – Production control system – Used to implement planning and for feedback from the production process in real time
Monitoring	A component of the application "Sartorius ProControl@Enterprise" Used for continuous monitoring of all samples and statistics
MS SQL Server	A relational database management system from Microsoft® Available in various editions that differ in respect of price, functions and hardware limitations
Negative Error	According to Directive 76/211/EEC, the negative error of a finished package is the amount by which the actual fill quantity lies below the nominal fill quantity.
Net Weight	The weight of a material after deducting the weight of its packaging Gross weight minus tare weight
Nominal Value	Information prescribed by law regarding the net or drained weight on the packaging of a product
O_2	Oxygen – Colorless and odorless gas that is involved in combustion and corrosion processes and is required for respiration – A component of the protective gas in MAP packages
ODS	**O**perating **D**ata **S**ampling, a component of the MES Differentiation is made between organizational operating data, such as order or personnel data, and technical operating data, e.g. machine or process data.
Password	Secret code word that uniquely identifies a user
Plausibility Limits	Limits within which a result is to be expected Allow the detection of outliers or incorrect entries
Process Control	See "SPC"
QA	**Q**uality **A**ssurance Collective term for different approaches and measures to assure compliance with specified quality requirements, e.g. with the aid of a quality management system

"Range" chart type
– Shows how the range between the smallest and largest values changes over time
– Normally used for small groups of measured values (up to 25)

Record

A consolidated unit of data fields
Example: The data fields "Product ID", "Product Name", "Product Group" and "Product Price" comprise the data set "Product".

RS–232

Interface standard for data transmission
Serial interface, 9 or 25 pin D-sub connector

RS–485

Interface standard for data transmission
– Serial interface without standardized pin assignment
– Profibus and Sartonet®, for example, are based on this

RTF

Rich **T**ext **F**ormat
A file and data exchange format for formatted texts

Sample

Random selection of a portion of the manufactured products with the aim of performing a sample test according to Directive 76/211/EEC

Sampling

The terminal application "Sartorius ProControl@Enterprise Sampling"
– Is used to perform sampling and to record the measurement data obtained during inspections
– A component of the SAS
– Runs on one or more test stations

SAP

Manufacturer of modular ERP software for handling all business processes of an enterprise such as accounting, controlling, purchasing, warehousing, human resources, production and sales

Sartonet®

Sartorius communications interface
– Up to 32 participants are connected in parallel on a single line.
– The data traffic is bidirectional.

SAS

Sartorius AllSuite®
– Brand for current Sartorius PC applications, e.g. "Sartorius ProControl"
– The basis for the application "Sartorius ProControl@Enterprise" and the terminal application "Sartorius ProControl@Enterprise Sampling" as well as for future applications

SGS

World's leading inspection, monitoring, testing and certification company

Sigma Chart

"Standard Deviation" chart type
– Shows how far the measured values are from the mean value (standard deviation)
– Normally used for charts with a large number of measured values
– Shows the fluctuations in the filling process over time

Slicer

A machine that cuts products into slices and packages them

SPC

1. **S**tatistical **P**rocess **C**ontrol
Statistical method for optimizing production processes in order to meet a defined quality measure as cost effectively as possible

2. **S**artorius **P**ro**C**ontrol@Enterprise
– Runs on one or more PCs
– A component of the SAS
The main module of the application is used to enter and maintain base data, plan inspections and configure system settings. It also facilitates monitoring and evaluation. Measured values are recorded with the terminal application "SPC@ Enterprise Sampling" or via terminals.

SQF **S**afe **Q**uality **F**ood **P**rogram
International certification for foodstuffs

Standard Deviation Term used in statistics and probability calculation
– Often referred to as sigma
– A measure of the statistical spread of measured values around their mean value
– Square root of the variance of a random variable X

$$_x = \sqrt{VAR(X)}$$

Station **S**ee "Test station"

Supplement If the weight of products can reduce after filling or the product is difficult to fill, more than the nominal weight must be weighed in. This additional weight is known as a supplement.

+T Upper tolerance limit
– Largest value that can not be exceeded
– Values greater than +T are classified as violations
– For operational purposes only

+T1, +T2, +T3 Limit values for the positive deviation from the nominal filling quantity for operational purposes
The system automatically calculates the upper tolerance limits +T1, + T2 and +T3 by mirroring the lower tolerance limits -T1, -T2 and -T3 at the nominal value. They can be changed at any time.

–T Lower tolerance limit
– Smallest value that can not be breached
– Values less than -T are classified as violations
– For operational purposes only
– Independent of -T1 and -T2

–T1, –T2 Limit values prescribed by Directive 76/211/EEC for the negative deviation from the nominal filling quantity
– A maximum of 2 % of finished packages can breach -T1 (tolerance limit I)
– For the nominal weight, -T2 (the absolute tolerance limit) is two times limit value -T1; for the drained weight, -T2 is three times limit value -T1. The absolute tolerance limit must never be breached.

Tare Option to set the weight display of a container standing on a scale to zero, so that after filling the container, only the weight of its contents (net weight) is displayed

Tare – Gross Sampling method according to Regulation No. 76/211/EEC (variable tare):
– First you weigh the empty containers.
– Then you weigh the filled containers in the same sequence.
– This method is not suitable if the containers are closed when they leave the filling machine, e.g. bottle filling.
– Non-destructive testing

Tare Weight Difference between gross weight and net weight (packaging weight)
– Effective tare: Actual packaging weight, determined by weighing
– Piece or percent tare: Commercial packaging weight that is indicated as a fixed percentage of each finished package and is derived from experience
– Average tare: Mean value, determined by sampling (see "Mean tare value")

Taring	The empty container is weighed when taring a scale. Subsequently, the scale can automatically subtract the weight of the empty container from the gross weight, so that the net weight is displayed.
Test Characteristic	Properties of an inspection; specify the product characteristics to be checked and the type of test to be performed
Test Interval	Interval at which a gauge automatically performs inspections
Test Station	A computer or terminal on the network on which the terminal application "SPC@Enterprise Sampling" is installed. – Consists of the computer and connected gauges – Normally stands next to a specific filling machine whose filling function is to be checked
Test Type	Sampling method See "Gross", "Gross - Tare" and "Tare - Gross"
Transfer	Input of measured values in the terminal application "Sartorius ProControl@ Enterprise Sampling" Measured values that breach this limit value are classified as violations.
UCL	Upper control limit, see "Limit Values" A limit value that relates to the mean value and is displayed as a horizontal line on the range or sigma chart Measured values that exceed this limit value trigger an interaction
Upper Tolerance Limit	See "+T" and "+T1, +T2, +T3"
User Name	The batch description is displayed in the evaluation.The user name assigned to a user account which has to be entered on each login, together with the password, for authentication purposes.
UTL	Upper tolerance limit, see "Limit Values" A limit value that relates to the mean value and is displayed as a horizontal line on the range or sigma chart Measured values that exceed this limit value are classified as violations.
UWL	Upper warning limit, see "Limit Values" A limit value that relates to the mean value and is displayed as a horizontal line on the range or sigma chart Measured values that exceed this limit value trigger a warning.
Variable Tare Weighing	See "Tare - Gross"
Violations	Measured value that breaches a tolerance limit (e.g. -T, -T1, -T2 etc.) and can trigger an alarm
Weighing	Determination of a weight value by weighing
Weight	General meanings: – Weight force (depends on the place of measurement) – Mass (physical property of material, independent of location) Meaning in this user manual: – The weight value displayed by a scale
Work Order	A work order contains inspection plans prepared and if necessary adjusted for implementation. – Displayed at the terminal workstation

Workstation   A computer in the network on which the main module of the application "SPC@Enterprise" is installed.

These computers are used to enter and maintain base data, plan inspections and configure system settings. They also facilitate monitoring and evaluation.

Xi   Individual value of a statistic

XML   E**x**tensible **M**arkup **L**anguage
– Standard for structuring data in text form
– Facilitates the exchange of data between different computer systems, e.g. over the Internet

Xq   See "Arithmetic Mean"

Keyword Index

 You can find the terms for the software interface under the keywords "User Interface – Module Name"